

# Safety Data Sheet

Revision Date: 03/08/2016  
Z17000000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 1/13

**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](mailto: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):**

# Safety Data Sheet

Revision Date: 03/08/2016  
Z1700000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 2/13

---



**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

# Safety Data Sheet

Revision Date: 03/08/2016  
Z17000000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 3/13

---

| <b>Weight percent</b> | <b>Components - (CAS-No.)</b>                       |
|-----------------------|---|
| 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)

# Safety Data Sheet

Revision Date: 03/08/2016  
Z17000000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 4/13

**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 |

# Safety Data Sheet

Revision Date: 03/08/2016  
Z17000000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 5/13

---

**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

# Safety Data Sheet

Revision Date: 03/08/2016  
Z1700000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 6/13

---

**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.

# Safety Data Sheet

Revision Date: 03/08/2016  
Z17000000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 7/13

---

**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

# Safety Data Sheet

Revision Date: 03/08/2016  
Z17000000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 8/13

---

## 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  |



# Safety Data Sheet

Revision Date: 03/08/2016  
Z17000000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 9/13

---

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

## Safety Data Sheet

Revision Date: 03/08/2016  
Z1700000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 10/13

---

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

## Safety Data Sheet

Revision Date: 03/08/2016  
Z1700000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 11/13

---

|       |            |
|-------|------------|
| 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   |

# Safety Data Sheet

Revision Date: 03/08/2016  
Z1700000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 12/13

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).

## Safety Data Sheet

Revision Date: 03/08/2016  
Z1700000084/Version: 6.0  
Print Date: 04/28/2016  
Page: 13/13

---

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