



# SAFETY DATA SHEET

## 1. Identification of the dangerous substance/preparation and the identity of the manufacturer, importer, agent or marketer

**Product name** ML-D3477Series  
**Company identification** Hewlett-Packard (Israel) Ltd.  
Dafna 9 Ra'anana 43662,  
Israel  
**Telephone** +972 9 7623222

**HP Inc. health effects line**  
(Toll-free within the US) 1-800-457-4209  
(Direct) 1-760-710-0048  
**HP Inc. Customer Care Line**  
(Toll-free within the US) 1-800-474-6836  
(Direct) 1-208-323-2551  
**Email:** hpcustomer.inquiries@hp.com

## 2. Identification of the components of the substance/preparation

| Substance or Preparation | Preparation |            |         |  |
|--------------------------|-------------|------------|---------|--|
| Chemical name            | Synonyms    | CAS number | Percent |  |
| Carbon black             |             | 1333-86-4  | <5      |  |

## 3. Dangers of the dangerous substance/preparation

**Physical hazards** Not classified as a physical hazard.  
**Health hazards** Not classified as a health hazard.  
**Environmental hazards** Not classified as an environmental hazard.

**GHS classification**

|                              |                 |
|------------------------------|-----------------|
| <b>Physical hazards</b>      | Not classified. |
| <b>Health hazards</b>        | Not classified. |
| <b>Environmental hazards</b> | Not classified. |

**GHS label elements**

|                         |       |
|-------------------------|-------|
| <b>Signal word</b>      | None. |
| <b>Hazard symbols</b>   | None. |
| <b>Hazard statement</b> | None. |

**Precautionary statement**

|                   |       |
|-------------------|-------|
| <b>Prevention</b> | None. |
| <b>Response</b>   | None. |
| <b>Storage</b>    | None. |
| <b>Disposal</b>   | None. |

**Other hazards** Carbon black is classified by the IARC as a Group 2B carcinogen (the substance is possibly carcinogenic to humans). Carbon black in this preparation, due to its bound form, does not present this carcinogenic risk. None of the other ingredients in this preparation are classified as carcinogens according to ACGIH, EU, IARC, MAK, NTP or OSHA.

**Main symptoms** Not available.

## 4. First aid instructions

### First aid measures for different exposure routes

**Inhalation** Move person to fresh air immediately. If irritation persists, consult a physician.

|   |  |
|---|--|
| <b>Skin contact</b>                                 | Wash affected areas thoroughly with mild soap and water. Get medical attention if irritation develops or persists.   |
| <b>Eye contact</b>                                  | Do not rub eyes. Immediately flush with large amounts of clean, warm water (low pressure) for at least 15 minutes or until particles are removed. If irritation persists, consult a physician. |
| <b>Ingestion</b>                                    | Rinse mouth with water. Drink one to two glasses of water. DO NOT induce vomiting. Get medical attention immediately.  |
| <b>Main symptoms</b>                                | Difficulty in breathing. Coughing.   |
| <b>Personal protection for first-aid responders</b> | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.   |
| <b>Notes to physician</b>                           | Treat symptomatically.   |
| <b>Special first aid equipment</b>                  | Not available.   |

## 5. Firefighting procedure

|  |   |
|--|---|
| <b>Extinguishing media</b>   |   |
| <b>Suitable extinguishing media</b>                                  | Dry chemical, foam, carbon dioxide, water fog.  |
| <b>Extinguishing media which must not be used for safety reasons</b> | Do not use water jet as an extinguisher, as this will spread the fire.                          |
| <b>Specific hazards during fire fighting</b>                         | During fire, gases hazardous to health may be formed.   |
| <b>Special fire fighting procedures</b>                              | Move containers from fire area if you can do so without risk.                                   |
| <b>Protection of fire-fighters</b>                                   | Firefighters should wear full protective clothing including self contained breathing apparatus. |
| <b>General fire hazards</b>  | No unusual fire or explosion hazards noted.   |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.      |

## 6. Safety precautions

|   |  |
|---|--|
| <b>Personal precautions</b>               | Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. See Section 8 of the SDS for Personal Protective Equipment. |
| <b>Environmental precautions</b>          | Avoid discharge into drains, water courses or onto the ground.   |
| <b>Methods for cleaning up</b>            | Not available.   |
| <b>Methods and materials for clean-up</b> | Not available.   |
| <b>Other information</b>                  | Fine powder can form explosive dust-air mixtures. Take up mechanically and collect in suitable container for disposal. Dispose of in compliance with federal, state, and local regulations.  |

## 7. Handling and storage

|   |   |
|---|---|
| <b>Precautions for safe handling</b>                                | Minimize dust generation and accumulation. Use local exhaust ventilation. Avoid prolonged exposure. Practice good housekeeping.                   |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store in tightly closed original container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Means of reducing exposure and personal protection

|  |   |
|--|---|
| <b>Engineering measures to reduce exposure</b> | Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. |
|--|---|

### Occupational exposure limits

Israel. OELs (Labor Inspection Regs. (Occup. & Bio. Monitoring of those Working with Hazardous Materials), Appendix 2, 1990, as amended)

| Components                   | Type | Value               | Form                |
|------------------------------|------|---------------------|---------------------|
| Carbon black (CAS 1333-86-4) | TWA  | 3 mg/m <sup>3</sup> | Inhalable fraction. |

| US. ACGIH Threshold Limit Values Components | Type   | Value               | Form                |
|---|--|---------------------|---------------------|
| Carbon black (CAS 1333-86-4)                | TWA  | 3 mg/m <sup>3</sup> | Inhalable fraction. |
| <b>Biological limit values</b>              | No biological exposure limits noted for the ingredient(s).   |                     |                     |
| <b>Personal protective equipment</b>        |  |                     |                     |
| <b>Respiratory protection</b>               | No personal respiratory protective equipment required under normal conditions of use.                                      |                     |                     |
| <b>Hand protection</b>                      | Rubber gloves are recommended. Wash hands after handling.  |                     |                     |
| <b>Eye protection</b>                       | Wear safety glasses with side shields (or goggles).  |                     |                     |
| <b>Skin and body protection</b>             | Protection suit must be worn.  |                     |                     |
| <b>Hygiene measures</b>                     | Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. |                     |                     |

## 9. Physical and chemical properties

### Appearance

|                       |                    |
|-----------------------|--------------------|
| <b>Physical state</b> | Not available.     |
| <b>Form</b>           | Solid. Fine powder |
| <b>Color</b>          | Black.             |

**Odor** Odorless

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Decomposition temperature** > 392 °F (> 200 °C)

**Flash point** Not available.

**Flammability** Not available.

**Auto-ignition temperature** Not available.

### Upper/lower flammability or explosive limits

|                                       |                |
|---------------------------------------|----------------|
| <b>Flammability limit - lower (%)</b> | Not available. |
| <b>Flammability limit - upper (%)</b> | Not available. |
| <b>Explosive limit - lower (%)</b>    | Not available. |
| <b>Explosive limit - upper (%)</b>    | Not available. |

**Oxidizing properties** No information available.

**Vapor pressure** Not available.

### Solubility(ies)

|                           |  |
|---------------------------|--|
| <b>Solubility (water)</b> | Insoluble in water.  |
| <b>Solubility (other)</b> | Partially soluble in toluene, chloroform and tetrahydrofuran |

**Partition coefficient (n-octanol/water)** Not available.

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability** Stable under normal storage conditions.

**Conditions to avoid** Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**Incompatibility** This product may react with strong oxidizing agents.

**Hazardous decomposition products** Carbon monoxide and carbon dioxide.

**Materials to avoid** Not available.

## 11. Toxicological information

### Information on likely routes of exposure

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Dust may irritate respiratory system. Prolonged inhalation may be harmful. |
| <b>Skin contact</b> | Dust or powder may irritate the skin.                                      |
| <b>Eye contact</b>  | Dust may irritate the eyes.  |
| <b>Ingestion</b>    | Expected to be a low ingestion hazard.                                     |

**Toxicological data** Not available.

**Acute toxicity** Based on available data, the classification criteria are not met.  
LD50/oral/rat >5000 mg/kg.

| Components  | Species   | Test Results  |
|---|---|---------------|
| Carbon black (CAS 1333-86-4)                                  |   |               |
| <b>Acute</b>  |   |               |
| <b>Oral</b>   |   |               |
| LD50  | Rat   | > 10000 mg/kg |
| <b>Skin corrosion/irritation</b>                              | Based on available data, the classification criteria are not met.<br>Not a known irritant. (OECD 404).  |               |
| <b>Serious eye damage/eye irritation</b>                      | Based on available data, the classification criteria are not met.<br>Not a known irritant. (OECD 405).  |               |
| <b>Respiratory or skin sensitization</b>                      |   |               |
| <b>Respiratory sensitization</b>                              | Not a respiratory sensitizer.   |               |
| <b>Skin sensitization</b>                                     | This product is not expected to cause skin sensitization.   |               |
| <b>Germ cell mutagenicity</b>                                 | Based on available data, the classification criteria are not met.<br>Negative Ames Test (Test strains: Salmonella typhimurium).   |               |
| <b>Carcinogenicity</b>  | Based on available data, the classification criteria are not met.   |               |
|   | Carbon black is classified as a carcinogen by the IARC (possibly carcinogenic to humans, Group 2B) and by the State of California under Proposition 65. In their evaluations of carbon black, both organizations indicate that exposure to carbon black, per se, does not occur when it remains bound within a product matrix, specifically, rubber, ink, or paint. Carbon black is present only in a bound form in this preparation. |               |
| <b>ACGIH Carcinogens</b>                                      |   |               |
| Carbon black (CAS 1333-86-4)                                  | A3 Confirmed animal carcinogen with unknown relevance to humans.  |               |
| <b>IARC Monographs. Overall Evaluation of Carcinogenicity</b> |   |               |
| Carbon black (CAS 1333-86-4)                                  | 2B Possibly carcinogenic to humans.   |               |
| <b>Reproductive toxicity</b>                                  | This product is not expected to cause reproductive or developmental effects.  |               |
| <b>Specific target organ toxicity - single exposure</b>       | Based on available data, the classification criteria are not met.   |               |
| <b>Specific target organ toxicity - repeated exposure</b>     | Based on available data, the classification criteria are not met.   |               |
| <b>Aspiration hazard</b>                                      | Based on available data, the classification criteria are not met.   |               |
| <b>Chronic effects</b>  | Not available.  |               |

**Other information** Complete toxicity data are not available for this specific formulation  
Refer to Section 2 for potential health effects and Section 4 for first aid measures.

In a study in rats (H.Muhle) by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the concentration(16mg/m3) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m3) exposure group. But no pulmonary changes was reported in the lowest (1mg/m3) exposure group, the most relevant level to potential human exposures.

In 1996, the IARC reevaluated carbon black as a GROUP 2B carcinogen (possible human carcinogen). This evaluation is given to carbon black for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the developer of lung tumors in rat receiving chronic inhalation exposures to free carbon black at level that induce particle overload of the lung. Studies performed in animal models other than rats have not demonstrated an association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

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## 12. Environmental information

### Ecotoxicity

**Environmental effects** Not available.

### Persistence and degradability

**Biodegradation** No data is available on the degradability of any ingredients in the mixture.

**Mobility in soil** Not available.

**Other information** Not available.

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## 13. Dangerous substance disposal methods

**Disposal instructions** Dispose of in compliance with federal, state, and local regulations. Do not shred toner cartridge, unless dust-explosion prevention measures are taken. Do not put toner container into fire; heated toner may cause severe burns. Do not incinerate. Do not allow this material to drain into sewers/water supplies.

HP's Planet Partners (trademark) supplies recycling program enables simple, convenient recycling of HP original inkjet and LaserJet supplies. For more information and to determine if this service is available in your location, please visit <http://www.hp.com/recycle>.

**Waste from residues / unused products** Not available.

**Contaminated packaging** Not available.

**Special precautions** Not available.

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## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

### ADR

Not regulated as dangerous goods.

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## 15. Regulatory information

### Israel regulations

**Israel. Harmful Chemicals (Hazardous Substances Law, 5753-1993, Annex 1, as amended)**

Not listed.

**Israel. Toxic Chemicals (Hazardous Substances Law, 5753-1993, Annex 2, as amended)**

Not listed.

**Regulatory information** All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

## 16. Other information

|                                 |   |
|---------------------------------|---|
| <b>Training information</b>     | Follow training instructions when handling this material.   |
| <b>Recommended use</b>          | Not available.  |
| <b>Recommended restrictions</b> | Do not use with non compatible printer.   |
| <b>Further information</b>      | Not available.  |
| <b>Bibliography</b>             | Not available.  |
| <b>Disclaimer</b>               | This Safety Data Sheet document is provided without charge to customers of HP. Data is the most current known to HP at the time of preparation of this document and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application. This document was prepared to the requirements of the jurisdiction specified in Section 1 above and may not meet regulatory requirements in other countries. |

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|                                     |  |
|-------------------------------------|--|
| <b>Revision information</b>         | 1. Product and Company Identification: Alternate Trade Names |
| <b>Explanation of abbreviations</b> |  |

|               |   |
|---------------|---|
| <b>ACGIH</b>  | American Conference of Governmental Industrial Hygienists           |
| <b>CAS</b>    | Chemical Abstracts Service  |
| <b>CERCLA</b> | Comprehensive Environmental Response Compensation and Liability Act |
| <b>CFR</b>    | Code of Federal Regulations   |
| <b>COC</b>    | Cleveland Open Cup  |
| <b>DOT</b>    | Department of Transportation  |
| <b>EPCRA</b>  | Emergency Planning and Community Right-to-Know Act (aka SARA)       |
| <b>IARC</b>   | International Agency for Research on Cancer                         |
| <b>NIOSH</b>  | National Institute for Occupational Safety and Health               |
| <b>NTP</b>    | National Toxicology Program   |
| <b>OSHA</b>   | Occupational Safety and Health Administration                       |
| <b>PEL</b>    | Permissible Exposure Limit  |
| <b>RCRA</b>   | Resource Conservation and Recovery Act                              |
| <b>REC</b>    | Recommended   |
| <b>REL</b>    | Recommended Exposure Limit  |
| <b>SARA</b>   | Superfund Amendments and Reauthorization Act of 1986                |
| <b>STEL</b>   | Short-Term Exposure Limit   |
| <b>TCLP</b>   | Toxicity Characteristics Leaching Procedure                         |
| <b>TLV</b>    | Threshold Limit Value   |
| <b>TSCA</b>   | Toxic Substances Control Act  |
| <b>VOC</b>    | Volatile Organic Compounds  |