



# MATERIAL SAFETY DATA SHEET

## 1. Chemical product and company identification

**Important information** \*\*\* This Safety Data Sheet is only authorised for use by HP for HP Original products. Any unauthorised use of this Safety Data Sheet is strictly prohibited and may result in legal action being taken by HP. \*\*\*

**A. Product name** ML-D3477Series

### B. Recommended use and Limitations on use

**Recommended use** This product is a toner mixture that is used in printing systems.

**Limitations on use** Do not use with non compatible printer.

### C. Supplier information

HP Korea House  
23-6 Yoido-dong  
Youngdeungpo-gu  
Seoul 150-742, Korea

**Telephone** (02) 2199-0114

### 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. Hazards identification

### A. Hazard category/Classification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

### B. Warning label items including precautionary statement

• **Pictogram** None.

• **Signal word** None.

• **Hazard statement** None.

• **Precautionary statement** None.

**C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard)** 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.

**GHS Supplemental information** None.

## 3. Composition/information on ingredients

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Carbon black		1333-86-4	KE-04682	<5

## 4. First aid measures

**A. In case of eye contact** 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. In case of skin contact** Wash affected areas thoroughly with mild soap and water. Get medical attention if irritation develops or persists.

**C. In case of inhalation** Move person to fresh air immediately. If irritation persists, consult a physician.

**D. In case of swallowing** Rinse mouth with water. Drink one to two glasses of water. DO NOT induce vomiting. Get medical attention immediately.

<b>E. Note to physician</b>	Treat symptomatically.
<b>General advice</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

### A. Suitable (and unsuitable) extinguishing media

<b>Suitable extinguishing media</b>	Dry chemical, foam, carbon dioxide, water fog.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

**B. Specific hazards arising from the chemical (example: hazardous combustion products)** During fire, gases hazardous to health may be formed.

### C. Specific methods of fire-fighting

<b>Special protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Special fire fighting procedures</b>	Move containers from fire area if you can do so without risk.

**General fire hazards** No unusual fire or explosion hazards noted.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

**A. Personal precautions, protective equipment and emergency measures** 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 MSDS for Personal Protective Equipment.

**B. Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**C. Methods and materials for containment and cleaning up** Avoid the generation of dusts during clean-up. Use explosion proof electric equipment. Collect dust using a vacuum cleaner equipped with HEPA filter. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Sweep up or vacuum up spillage and collect in suitable container for disposal.

## 7. Handling and storage

**A. Precautions for safe handling** Minimize dust generation and accumulation. Use local exhaust ventilation. Avoid prolonged exposure. Practice good housekeeping.

**B. Conditions for safe storage (including any incompatibilities)** Store in tightly closed original container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS).

## 8. Exposure controls/personal protection

### A. Exposure limit values, biological limit values, etc

#### Korea. OELs. Standards for Exposure to Chemical Substances and Physically Hazardous Factors

Components	Type	Value
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m <sup>3</sup>

#### US. ACGIH Threshold Limit Values

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

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**B. Appropriate engineering controls** 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.

### C. Personal protective equipment

- **Respiratory protection** No personal respiratory protective equipment required under normal conditions of use.
- **Eye protection** Wear safety glasses with side shields (or goggles).
- **Hand protection** Rubber gloves are recommended. Wash hands after handling.

• <b>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.

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## 9. Physical and chemical properties

### A. Appearance

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

**B. Odor** Odorless

**C. Odor threshold** Not available.

**D. pH** Not available.

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

**F. Boiling point, initial boiling point, and boiling range** Not available.

**G. Flash point** Not available.

**H. Evaporation rate** Not available.

**I. Flammability (solid, gas)** Not available.

### J. Upper/lower limit on flammability or explosive limits

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**K. Vapor pressure** Not available.

### L. Solubility

**Solubility (water)** Insoluble in water.

**Solubility (other)** Partially soluble in toluene, chloroform and tetrahydrofuran

**M. Vapor density** Not available.

**N. Specific gravity** Not available.

**O. n-octanol/water partition coefficient** Not available.

**P. Auto-ignition temperature** Not available.

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

**R. Viscosity** Not available.

**S. Molecular weight** Not available.

### Other data

**Oxidizing properties** No information available.

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## 10. Stability and reactivity

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

### A. Stability and hazardous reaction potential

**Stability** Stable under normal storage conditions.

**Hazardous reaction potential** No dangerous reaction known under conditions of normal use.

**B. Conditions to avoid (e.g. static discharge, shock or vibration, etc)** Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.

**C. Incompatible materials** This product may react with strong oxidizing agents.

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

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## 11. Toxicological information

### A. Information on likely routes of exposure

- **Respiratory organs** Dust may irritate respiratory system. Prolonged inhalation may be harmful.
- **Skin** Dust or powder may irritate the skin.
- **Eyes** Dust may irritate the eyes.

- **Mouth** Expected to be a low ingestion hazard.

**B. Information on health hazards**

- **Acute toxicity (list all possible routes of exposure)** 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)		
<u>Acute</u>		
<b>Oral</b>		
LD50	Rat	> 10000 mg/kg
• <b>Corrosivity or irritation to the skin</b>	Based on available data, the classification criteria are not met. Not a known irritant. (OECD 404).	
• <b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met. Not a known irritant. (OECD 405).	
• <b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
• <b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
• <b>Carcinogenic properties /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.	

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Carbon black (CAS 1333-86-4) 2B Possibly carcinogenic to humans.

- **Mutagenic properties /Mutagenicity** Based on available data, the classification criteria are not met. Negative Ames Test (Test strains: Salmonella typhimurium).
- **Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.
- **Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.
- **Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

**12. Ecological information**

- A. Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
- B. Persistence/degradability** No data is available on the degradability of any ingredients in the mixture.
- C. Bioaccumulative potential** Not available.
- D. Mobility in soil** Not available.
- E. Other adverse effects** Not available.

**13. Disposal considerations**

- A. Method of disposal** 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>.
- B. Disposal considerations (including disposal of contaminated containers or packaging)** Not available.

**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.

**Further information** Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

**15. Regulatory information****A. Restrictions under the Industrial Safety and Health Law****Harmful Substances Prohibited from Manufacturing**

Not regulated.

**Harmful Substances Requiring Permission for Manufacture or Use**

Not regulated.

**Controlled Hazardous Substances**

Not regulated.

**Harmful Substances Requiring Special Medical Examination**

Not regulated.

**Workplace Environmental Monitoring Harmful Materials**

Not regulated.

**Occupational Exposure Limit**

CARBON BLACK (CAS 1333-86-4)

**B. Restrictions under the Chemicals Control Law (Previously Toxic Chemicals Control Law)****Accidental Release Prevention Substances**

Not regulated.

**Observational Chemicals**

Not regulated.

**C. Restrictions under the Dangerous Substance Safety Management Act****D. Restrictions under the Wastes Control Act****Halogenated Materials in Waste Organic Solvents**

Not regulated.

**Hazardous Substances**

Not regulated.

**E. Restrictions under other foreign or domestic laws****Clean Air Conservation Act****Air Pollutants**

Not regulated.

**Specific Air Pollutants**

Not regulated.

**Act on the Registration and Evaluation of Chemicals****Banned Toxic Chemicals**

Not regulated.

**Designated Existing Chemicals Subject to Registration (PEC) (MoE No. 2015-92)**

Not listed.

**Restricted Chemical Substances**

Not regulated.

**Toxic Chemicals**

Not regulated.

**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**

- A. Source of information** Not available.
- B. Issue date** 01-Jun-2018
- C. Number of revisions and date of most recent revision** 07-Aug-2019 (04 revision)

**D. Other**

Not available.

**Disclaimer**

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**Revision information**

1. Product and Company Identification: Alternate Trade Names  
Chemical product and company identification: Important information

**Explanation of abbreviations**

<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