



# SAFETY DATA SHEET

## 1. Identification of the substance or mixture and of the supplier

1.1 GHS product identifier ML-D3477Series

1.2 Other means of identification Not available.

### 1.3 Recommendations and restrictions on the use of substances or mixtures

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

**Recommended restrictions** Do not use with non compatible printer.

### 1.4 Supplier's details

HP Inc (Thailand) Ltd.  
968 U Chu Liang Building, 3rd Floor, Rama IV Rd., Silom, Bangrak, BKK 10500  
Bangkok, Bangkok, Thailand 10500

**Telephone** 66 2353 0888

**Main Fax** 66 2353 9555

### 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

### 2.1 GHS classification of substance or mixture, and national or regional information

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

### 2.2 GHS label elements

**Hazard symbol(s)** None.

**Signal word** None.

**Hazard statement(s)** Not available.

**Precautionary statement(s)**

Not available.

**2.3 Other hazards which do not result in GHS classification** 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.

**Supplemental information** None.

## 3. Composition/information on ingredients

### 3.2 Mixture

Chemical identity	Common name and synonym	CAS number and other unique identifiers	Concentration or concentration range
Carbon black		1333-86-4	<5

## 4. First-aid measures

### 4.1 Description of first-aid measures

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

**Skin contact** 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>4.2 Most important symptoms/effects, acute and delayed</b>	Difficulty in breathing. Coughing.
<b>4.3 Indication of immediate medical considerations and important specific treatment that should be performed</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

### 5.1 Prohibited extinguishing media and suitable 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.

**5.2 Specific hazards arising from chemicals** During fire, gases hazardous to health may be formed.

**5.3 Special protective equipment and precautions for fire-fighters** Firefighters should wear full protective clothing including self contained breathing apparatus.

**Fire fighting equipment/instructions** 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

**6.1 Personal precautions, protective equipment and emergency procedures** 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.

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

**6.3 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.

**Other issues relating to spills and releases** 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

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

**7.2 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 SDS).

## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

##### 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).

**8.2 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.

### 8.3 Personal protective measures

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Rubber gloves are recommended. Wash hands after handling.
<b>Other</b>	Protection suit must be worn.
<b>Respiratory protection</b>	No personal respiratory protective equipment required under normal conditions of use.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</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

<b>Physical state</b>	Not available.
<b>Form</b>	Solid. Fine powder
<b>Color</b>	Black.
<b>9.2 Odor</b>	Odorless
<b>9.3 Odor threshold limit</b>	Not available.
<b>9.4 pH</b>	Not available.
<b>9.5 Melting point/freezing point</b>	Not available.
<b>9.6 Initial boiling point and boiling range</b>	Not available.
<b>9.7 Flash point</b>	Not available.
<b>9.8 Evaporation rate</b>	Not available.
<b>9.9 Flammability (solid, gas)</b>	Not available.
<b>9.10 Upper/lower flammability or explosive limits</b>	
<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.
<b>9.11 Vapor pressure</b>	Not available.
<b>9.12 Vapor density</b>	Not available.
<b>9.14 Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble in water.
<b>Solubility (other)</b>	Partially soluble in toluene, chloroform and tetrahydrofuran
<b>9.15 Partition coefficient: n-octanol/water</b>	Not available.
<b>9.16 Auto-ignition temperature</b>	Not available.
<b>9.17 Decomposition temperature</b>	> 392 °F (> 200 °C)
<b>9.18 Viscosity</b>	Not available.
<b>Other information</b>	Not available.
<b>Oxidizing properties</b>	No information available.

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## 10. Stability and reactivity

<b>10.1 Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2 Chemical stability</b>	Stable under normal storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4 Conditions to avoid</b>	Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
<b>10.5 Incompatible materials</b>	This product may react with strong oxidizing agents.
<b>10.6 Hazardous decomposition products</b>	Carbon monoxide and carbon dioxide.

## 11. Toxicological information

### 11.1 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.

**11.2 Symptoms related to physical, chemical and toxicological characteristics** Not available.

**11.3 Delayed and immediate effects, including chronic effects from short- and long-term exposure** Not available.

### 11.4 Numerical values of toxicity

**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><u>Acute</u></b>		
<b>Oral</b>		
LD50	Rat	> 10000 mg/kg
<b>Skin corrosion/irritation</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 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. 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 on the evaluation of carcinogenic risks to humans</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.	

## Further 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/m<sup>3</sup>) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m<sup>3</sup>) exposure group. But no pulmonary changes was reported in the lowest (1mg/m<sup>3</sup>) 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. Ecological information

<b>12.1 Ecological toxicity</b>	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>12.2 Persistence and degradability</b>	No data is available on the degradability of any ingredients in the mixture.
<b>12.3 Bioaccumulative potential</b>	Not available.
<b>12.4 Mobility in soil</b>	Not available.
<b>12.5 Other adverse effects</b>	This product has not been tested for ecological effects.

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## 13. Disposal considerations

<b>Disposal instructions</b>	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 <a href="http://www.hp.com/recycle">http://www.hp.com/recycle</a> .
<b>Local disposal regulations</b>	Not available.
<b>Waste from residues / unused products</b>	Not available.
<b>Contaminated packaging</b>	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.

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

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## 15. Regulatory information

### Federal regulations

**Thailand. Explosive Substances & Precursors (Ministry of Defense Notification Re: Arms Subject to Imports License)**

Not regulated.

**Thailand. Notification of the Ministry of Interior, Re: Work Safety Relating to Dangerous Chemicals**

Not regulated.

**Thailand. Notification of the Ministry of Interior, Re: Work Safety Relating to More Dangerous Chemicals**

Not regulated.

**Thailand. Reportable Hazardous Substances (Notification of Ministry of Industry Re: Bases respecting report of quantity of hazardous materials under Department of Industrial Works, B.E. 2547)**

Not regulated.

**International regulations**

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.

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**16. Other information, including date of preparation or last revision**

**Issue date** 01-Jun-2018

**Revision date** 31-Aug-2018

**Version #** 03

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**Revision information** 1. Product and Company Identification: Alternate Trade Names

**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