

Panasonic Communications Co., Ltd.

Office Network Company

9-1 Hiraide Industrial Park, Utsunomiya City, Tochigi, 321-8502 Japan

TEL : Japan (0) 28-663-3285, FAX : Japan (0) 28-663-2398

Material Safety Data Sheet

Page: 1 of 4

MSDS No.: 021-000584

Date : 26th April, 2005

SECTION 1 PRODUCT IDENTIFICATION

Product Name : Toner, Toner Cartridges UG-5535, UG-5530, DQ-UG17H, DQ-UG16H, UG-5535DEV, UG-5530DEV, DQ-UG17HDEV, DQ-UG16HDEV, DE-3360DEV for Panasonic Facsimile machine Models UF-8100, UF-7100, UF-9000, UF-8000, UF-7000, DP-180 & DP-190

Product No. : Toner for Toner Cartridges UG-5535, UG-5530, DQ-UG17H, DQ-UG16H, UG-5535DEV, UG-5530DEV, DQ-UG17HDEV, DQ-UG16HDEV & DE-3360DEV

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS (Common Name)	CAS #	PROPORTION (% by wt.)	OSHA PEL	ACGIH TLV	OTHER LIMITS
• Styrene acrylate copolymer		90-95	None established	None established	None
• Carbon Black	1333-86-4	5-7	3.5 mg/m ³	3.5 mg/m ³	None
• Paraffin Wax		1-5	None established	2 mg/m ³	None
• Silicon Dioxides		1-3	None established	None established	None

SECTION 3 HAZARDOUS IDENTIFICATION

*EMERGENCY OVERVIEW *

Characteristics: Fine odorless powder (black colored). Water insoluble.

Flash Point: Not applicable

HMIS Ratings: Health: 1 Fire: 1 Reactivity: 0

Personal Protection: (See Section 8) - No personal protective device is required under the normal use. In the case that some accident causes considerable spill, the following measures are suggested.

Use protective goggles. Use suitable protective glove. Use a NIOSH/MSHA approved dust/mist respirator.

POTENTIAL HEALTH EFFECTS

EYE: This material presents no serious risk of chemical damage to the eyes.

SKIN: This material presents no serious risk of chemical damage to the skin.

INGESTION: This material may be harmful if swallowed.

INHALATION: Respiratory tract may be affected by exposure to large amounts of dust from this material.

SECTION 4 FIRST AID MEASURES

EYES: Flush eyes with plenty of water for at least 15 minutes, and seek medical attention.

SKIN: Wash material off of skin with plenty of soap and water.

INGESTION: If the material is swallowed, get immediate medical attention or advice.

INHALATION: Remove person to fresh air and seek medical attention or advice. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Not provided.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT: Not available
Method Used Not available
Explosion Limits(Upper): Unknown
Explosion Limits(Lower): 40g/m³
Auto Ignition: Not available
Dust Explosion Classification: 3
Rate of Burning: Not available

General Fire hazards: Thermal decomposition of organic components may results in occurrence of oxides of carbon. Dust explosion may occur under the limited condition.

Hazardous Combustion Products: Oxides of carbon

Extinguishing Media: Water, ABC dry chemical or protein type air foams are recommended.

Fire Fighting Equipment/Instruction: Do not use methods which may create a dust cloud such as high pressure, water, stream, etc.

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0 Other: 0

HMIS Ratings: Health: 1 Fire: 1 Reactivity: 0
Personal Protection: (See Section 8.)

SECTION 6 ACCIDENTIAL RELEASE MEASURES

Containment Procedures: Contain spill, ventilate area, and recover as much as disposal.
Clean-up Procedure: Spray water over the spilled and/or leaked materials and then clean out into a container.
Evacuation Procedures: A vacuum cleaner with explosion-proof can be used for small spills.
Special Instructions: None

SECTION 7 HANDLING AND STORAGE

Procedure for Handling: Appropriate precaution should be taken to minimize potential exposure to accidental ingestion, inhalation of dust, eye and skin contact. Personal protective equipment (Safety goggles, Protective gloves, Nuisance dust respirator) recommended. To void dust explosion, control airborne concentrations below the recommended exposure limits and keep out of ignition source. Ground all equipment and pour material slowly into vessel.

Recommended Storage Methods: Storage in dry cool place. Keep from sparks and open flame. Use with adequate ventilations.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines: Control airborne concentrations below the recommended limits. Use only with adequate ventilation. Mechanical ventilation is recommended.

Component Exposure limits

	OSHA PEL (mg/M ³)	ACGIH TLV (mg/M ³)
Styrene-Acrylate Copolymer	10*	15*
Carbon Black	3.5	3.5
Paraffin wax		2
Silicon Dioxides	10*	15*

*: for total dust

<Continue>

General Product Information

The product is styrene-Acrylate toner in a cartridge for use in page printers and fax receivers. This cartridge prevents the toner from spilling from itself. The toner material is generally non-hazardous when NOT a dust or powder. It is generally fine granule form. In case that some accident causes considerable spill, the following measures are suggested.

Engineering Ctrl: Ventilation; Local Exhaust recommended.

Personal Protective Equipment

Eye/Face: Safety goggles

Skin: Protective gloves recommended

Respiratory: Nuisance dust respirator

General: Not necessary

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Black Powder	ODOR:	Odorless
Physical State:	Solid	pH:	NA
Vapor pressure:	NA	Vapor Density:	NA
Boiling Point:	NA	Freezing Point:	NA
Melting Point:	110°C	Solubility (H ₂ O):	Negligible
Specific Gravity:	1.15g/cm ³	Particle Size:	8-9 µm
Softening Point:	72°C	Evaporation Rate:	NA
Viscosity:	NA	Bulk density:	0.39 g/cm ³
Percent Volatile:	<0.5 wt.%	Molecular Weight:	20000-25000

Additional Properties

Solubility in Chloroform: Swell

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	Do not expose to temperature above 200°C
Incompatibility:	Avoid exposure to strong oxidizers
Hazardous Polymerization:	Will not occur

SECTION 11 TOXICOLOGICAL INFORMATION

Actual Toxicity / Target Organ Information

A. General Product Information:

Acute Inhalation Toxicity	LD ₅₀ ≥2000mg/kg (rat)
Acute Oral Toxicity	LC ₅₀ ≥4.85mg/l (rat)
Acute Eye Irritation	minimal irritant (rabbit)
Acute Dermal Irritation	non-irritant (rabbit)

B. Component LD₅₀ / LC₅₀: Paraffin Wax LD₅₀ 5g/kg

Epidemiology: Not available

Carcinogenicity

A. General Product/Component Information:

In 1996, the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This evaluation is given to carbon black for which is inadequate human evidence, but sufficient animal evidence. The latter is based upon the development of lung tumors in rat receiving chronic inhalation exposures to free carbon black at induce particle overload of the lung. Studies performed in animal models other than 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.

B. Component Carcinogenicity Listing: Not available

<Continue>

Teratogenicity/Reproductive Effects: Not available

Neurotoxicity: Not available

Mutagenicity: Negative in Ames assay.

Other Information

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

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: Not available

Environmental Fate: Not available

SECTION 13 DISPOSAL CONSIDERATION

US EPA Waste Number & Descriptions

A. General Product Information: No data

B. Component Waste Numbers: No data

Disposal Instructions: Landfill or incinerate little by little in accordance with local, state and federal regulations.

SECTION 14 TRANSPORT INFORMATION

DOT Information: No data

Label(s) Required: No data

Additional Shipping Information: No data

International Transportation Regulations: No data

SECTION 15 REGULATORY INFORMATION

US Federal Regulations

A. General Product Information: On TSCA Inventory

B. Component Information: Four components On TSCA Inventory

State Regulations

A. General Product Information: No data

B. Component Information: No data

Other Regulations

A. General Product Information: No data

B. Component Information: No data

SECTION 16 OTHER INFORMATION

USER'S RESPONSIBILITY

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation must be examined if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin must be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

Information on this data sheet represents our current data and best opinion as to the proper use in handling of this product under normal conditions.