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Material Safety Data Sheet

MSDS No.: 021-000389
Date : 6 January, 2003

SECTION 1 PRODUCT IDENTIFICATION

Product Name : Developer DQ-ZX700-PU for Panasonic Digital Copier Model DP-6000 and DP-7000

Product No. : Developer DQ-ZX700-PU

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS (Common Name)	CAS #	PROPORTION (% by wt.)
• Ferrite powder	-	> 90
• Polyester	-	< 10
• Perfluoroacrylate	-	< 5
• Polystyrene	-	< 1
• Carbon black	1333-86-4	< 1
• Formaldehyde/meramine copolymer	-	< 1

UN Hazardous Class: None UN Number: None

SECTION 3 HAZARDOUS IDENTIFICATION

Physical and Chemical Hazard: There are no significant hazards associated with this product.

Adverse Human Health Effects: There are no significant hazards associated with this product.

Environmental Effects: There are no significant hazards associated with this product.

SECTION 4 FIRST AID MEASURES

EYE CONTACT : Flush with a large amount of water for at least 15 minutes. Seek medical advice.

SKIN CONTACT : Wash with soap and water.

INGESTION : Rinse mouth with water. Give several glasses of water to drink and seek medical advice.

INHALATION : Remove from exposure and provide fresh air. Rinse mouth with water.

SECTION 5 FIRE FIGHTING MEASURES

Specified method : In case of fire, use extinguishing media. When in a machine, treat as an electrical fire.

EXTINGUISHING MEDIA : Water spray, Dry chemicals, Foam.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Shut off ignition sources. For small spills, sweep up or soak up with damp cloth. For large spills, wear proper protective equipment and place waste material in closed container. Dispose of in accordance with federal, state and local regulations.

SECTION 7 HANDLING AND STORAGE

HANDLING : Do not incinerate toner or a toner cartridge. Do not disassemble a cartridge.

STORAGE : Keep in cool, dry and well-ventilated area. Keep out of reach of children.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameter
ACGIH TLV (1999): 10 mg/m^3 (Total)
3 mg/m^3 (Respirable)

Precautionary Measure: None required when used as intended. For use other than normal customer operating procedures (such as in bulk toner processing facilities), local exhaust ventilation may be required.

Personal Protective Equipment: None required when used as intended. For use other than normal customer operating procedures (such as in bulk toner processing facilities), protective glove, goggles and respirators may be required.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/ODOR :	Black powder/Faint Odor
BOILING POINT(OC):	Not applicable
VOLATILE(%):	Not applicable
SPECIFIC GRAVITY (H_2O=1):	Not applicable
SOLUBILITY IN WATER:	Negligible
VAPOR PRESSURE:	Not applicable
SOFTENING POINT:	Not available
INITIAL BOILING POINT (°C):	Not applicable
OTHER DATA:	None

SECTION 10 STABILITY AND REACTIVITY

FLASH POINT(OC):	Not applicable
AUTO-IGNITION TEMPERATURE:	Not applicable
EXPLOSION LIMIT:	Not applicable
FLAMMABILITY:	Not flammable under conditions of use
SPONTANEOUS COMBUSTIBILITY/REACTIVE WITH WATER:	None
SELF-REACTIVITY/EXPLOSIVE:	None
DUST EXPLOSIVE:	Like most organic materials in powder form, it can form explosive mixtures when dispersed in air.
STABILITY AND REACTIVITY:	Stable
OTHER DATA:	None

SECTION 11 TOXICOLOGICAL INFORMATION

SKIN CORROSIVE:	None	
SKIN IRRITANT(RABBIT):	Not an irritant. [1)]	
EYE IRRITANT(RABBIT):	Not an irritant.	
HUMAN PATCH:	Not available.	
SENSITIZATION	SKIN (GUINEA-PIG):	Not a sensitizer. [1)]
ACUTE TOXICITY	SWALLOWED LD50(RAT):	> 500 mg/kg[1)] (Practically non-toxic)
	SKIN LD50(RABBIT):	Not available.
	INHALED LD50(RAT):	Not available.

CHRONIC TOXICITY: The results obtained from a Chronic Toner Inhalation Study, demonstrated no lung change in rats for the lowest (1mg/m^3) exposure Level (i.e. the level most relevant to potential human exposure). A very slight degree of fibrosis was noted in 25% of the animals at the middle (4mg/m^3) exposure level, while a slight degree of fibrosis was noted in all the animals at the highest (16mg/m^3) exposure level. These findings are attributed to “lung overloading”, a generic response to excessive amounts of any dust retained in the lungs for a prolonged period. This study was conducted using a special test toner to comply with EPA testing protocol. The test toner was ten times more respirable than commercially available toner, and would not be functionally suitable for equipment.[1)]

CARCINOGENITY: Carbon Black is classified as “Group 2B(possibly carcinogenic to human)” by IARC. But we obtained the results from a Chronic Toner Inhalation Study, that this toner has no evidence of human carcinogens. All other ingredients are not classified as “Carcinogens[ref.1]”.

MUTAGENICITY: AMES ASSAY: Negative

REPRODUCTION AND DEVELOPMENT: Not classified as “Reproductive and Development chemicals[ref.2]”

1) This information is based on toxicity data for similar materials and ingredients.

SECTION 12 ECOLOGICAL INFORMATION

BIODEGRADABILITY: Not available.
BIOACCUMULATION: Not available.
ACCUTE TOXICITY: Not available
OTHER INFORMATION: None

SECTION 13 DISPOSAL CONSIDERATION

Dispose of in accordance with federal, state and local regulations.

SECTION 14 TRANSPORT INFORMATION

Transport in accordance with federal, state and local regulations.

SECTION 15 REGULATORY INFORMATION

Ensure this product in compliance with federal requirements and ensure conformity to local regulations.

SECTION 16 OTHER INFORMATION

The above mentioned data correspond to our present state of knowledge and experience, but no warranty is made. Users should consider these data only as a supplement to other information and must make independent determination of the suitability and completeness of information from all sources to ensure proper use and disposal of the materials and safety and health of employees and customers.

References

1. · IRAC Monographs on the Evaluation Carcinogenic Risks to Humans (WHO. International Agency for Research on Cancer)
   · National Toxicology Program(NTP) Report on Carcinognens (NTP)
   · TLVs and BEIs (American Conference of Governmental Industrial Hygienists)
   · Council Directive 67/548/EEC on the approximation of the laws, regulations, and administrative provisions relating to the classification, packing and labeling of dangerous substances; Annex 1(EU)
   · Journal of Occupational Health (Japan Society for Occupational Health)
2. · Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packing and labeling of dangerous substances; Annex 1(EU)