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## Digital Imaging Company

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# Material Safety Data Sheet



MSDS No.: 021-000392

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## SECTION 1 PRODUCT IDENTIFICATION

Product Name: Dry Toner for FP-D250, FP-D350, FP-D355

Product No.: FQ-TL20

## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENTS | CAS # | PROPORTION (% by wt.) | OSHA PEL | ACGIH TLV | OTHER LIMITS |
|---|---|---|---|---|---|
| Styrene acrylate copolymer | | 80 - 90 | None established | None established | None |
| Carbon black | 1333-86-4 | 5 - 10 | 3.5 mg/m3 | 3.5 mg/m3 | None |
| Polypropylene | | < 5 | None established | None established | None |
| Organic pigment | 31714-55-3 | < 5 | 1 mg/m3 | 0.5 mg/m3 | None |
| Amorphous silica | 68611-44-9 | < 1 | 80 mg/m3 | 10 mg/m3 | None |

## SECTION 3 HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW: Fine black powder (main diam. is about 10micron). Slight odor.

POTENTIAL HEALTH EFFECTS:

EYE EFFECTS: Mild irritant.

SKIN EFFECTS: None currently known.

INGESTION EFFECTS: May be harmful if swallowed.

INHALATION EFFECTS: Minimal respiratory tract irritation may occur as with exposure to large amounts of any non-toxic dust. May cause cough and raise phlegm.

CHRONIC EFFECTS: Not aware of any health effects associated with toner under its intended use.

CARCINOGENICITY: Carbon black is reclassified as a group 2B by IARC, but inhalation test using a typical toner showed no association between toner exposure and animal tumors.

## SECTION 4 FIRST AID MEASURES

EYE CONTACT: Any material that contacts the eye should be washed out immediately with water.
Get medical attention if symptoms is occur.

SKIN CONTACT: Wash after each contact.
Get medical attention if symptoms is occur.

INHALATION: If symptomatic, remove to fresh air.
Get medical attention if symptoms persist.

INGESTION: If swallowed, drink 1-2 glasses of water and immediately induce vomiting. Get medical attention.

## SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT: Not applicable.

FLAMMABLE LIMITS: Not applicable.

EXTINGUISHING MEDIA: Water fog, dry chemical, foam or $CO_2$.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, Carbon dioxide and Smoke

FIRE AND EXPLOSION HAZARDS: If dispersed in air, like most finely divided organic powders, may form an explosive mixture.

## SECTION 6 ACCIDENTIAL RELEASE MEASURES

Minimize the release of particulates. Wear personal protective equipment. Sweep up or vacuum spilled toner and carefully transfer into sealed waste container. Sweep slowly to minimize generation of dust during cleanup. If a vacuum is used, the motor must be rated as dust tight. Residue can be removed with soap and water. Garments may be washed or dry cleaned, after removal of loose toner.

## SECTION 7 HANDLING AND STORAGE

HANDLING: Avoid creating dust. Clean up all spills promptly.
Inhalation and contact with skin or eyes should be avoided.
Provide general ventilation. Good general ventilation should be sufficient of most conditions.

STORAGE: Store in a cool, well ventilated place away from flames and spark-producing equipment.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES: ACGIH TLV= 10mg/$m^3$(Total dust)
OSHA PEL= 15mg/$m^3$(Total dust), 5mg/$m^3$(Respirable dust)

ENGINEERING CONTROLS: Good general ventilation is recommended.

RESPIRATORY PROTECTION: Not required under normal conditions. For use other than in normal operating procedures (such as in the event of large spill), goggles and respirators may be required.

SKIN PROTECTION: Not required under normal conditions.

EYE PROTECTION: Not required under normal conditions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Black fine powder
ODOR: Slight odor
pH: Not applicable
VAPOR PRESSURE (mg Hg.): Not applicable
VAPER DENSITY (AIR=1): Not applicable
EVAPORATION RATE: Not applicable
BOILING POINT (°C): Not applicable
SOFTENING POINT (°C): 140 – 160
SOLUBILITY IN WATER: Insoluble in water
SPECIFIC GRAVITY (H2O=1): 1.1

## SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable
HAZARDOUS REACTIONS: Dust explosion, like most finely divided organic powders.
CONDITIONS TO AVOID: Electronic discharge, throwing into fire.
MATERIALS TO AVOID: Oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, Carbon dioxide and Smoke.

## SECTION 11 TOXICOLOGICAL INFORMATION

HEALTH EFFECTS FROM EXPOSURE: No symptoms expected with intended use.
ACUTE TOXICITY:
INHALATION: Finely divided solid. Avoid exposure to dust.
EYES: No specific hazard known. May cause temporary irritation.
SKIN SENSITIZER: No signs. (Guinea-pig)
INGESTION: Expected to be a low ingestion hazard.
MUTAGENICITY: Negative in the Ames test
CARCINOGENICITY:
In 1996, the IARC revaluated 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 development 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.

CHRONIC EFFECTS:
In 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 high concentration (16mg/$m^3$) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/$m^3$) exposure group.
But no pulmonary change was reported in the lowest (1mg/$m^3$) exposure group, the most relevant level to potential human exposure.

## SECTION 12 ECOLOGICAL INFORMATION

No data available.

## SECTION 13 DISPOSAL CONSIDERATION

METHOD OF DISPOSAL: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

## SECTION 14 TRANSPORT INFORMATION

UN CLASS: None allocated.

DOT CLASS: None allocated.

TDG CLASS: None allocated.

## SECTION 15 REGULATORY INFORMATION

USA Information:
All chemical substances in this product comply with all applicable rules or orders under TSCA.

Australia Information:
Not classified as hazardous according to criteria of NOHSC.

## SECTION 16 OTHER INFORMATION

REFERENCES:
IARC(1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing Inks, Carbon Black and Some Nitro Componds. Lyon, PP.149-261.

H.Muhle, B.Bellmann, O.Creutzenberg, C.Dasenbrock, H.Ernst, R.Kilpper, J.C.Mackenzie, P.Morrow, U.Mohr, S.Takenaka and R.Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp.280-299.