Material Safety Data Sheet

In according to the Regulation (CE) n. 1907/2006 REACH

Printing: 15/09/2009 Data sheet **:** *B0855*in Rev. n. 1 - *data Rev. Date:23/11/2018*

1. Identification of the Product and of the Company

Product name:	**Toner cartridge Y d-Color MF220-280**
Code number:	B0855
Product description:	Yellow toner
Company name:	Olivetti S.p.A. Via Jervis 77 10015 Ivrea (TO) - ITALY
For information:	Tel. 0039 (0)125 775710 Fax 0039 (0)125 775711 e-mail : supplies@olivetti.com
For emergency:	Centro Antiveleni-Ospedale Niguarda (Milano) 0039 (0)2 66101029

2. Hazards identification

Classification: Not classified as dangerous in according to the Regulation EC n°1272/2008

LABEL ELEMENTS

Precautionary pictograms	---
Signal word:	---
Hazard Statement:	---
Precautionary Statements	---

Specific Hazards: Dust explosion (like most finely divided organic powders)

3. Composition/information on ingredients

Chemical name	Weight %	CAS number
Styrene acrylic resin	75-85	+++
Wax	10-20	+++
Wax 2	1-10	+++
Organic pigment	1-10	+++
Silica amorphous	1-10	7631-86-9
Titanium dioxide	< 1	13463-67-7

+++: Supplier's confidential information
Hazardous Ingredients:
Chemical Name: Titanium dioxide
EINECS-No.: 236-675-5
IARC Monographs: Group 2B
Symbol(EC): Not listed H code(EC): Not listed

4. First – aid measures

Ingestion: Wash out mouth with water. Drink one or two glasses of water. If symptoms occur, get medical attention.

Inhalation: Move victim to fresh air immediately. If symptoms occur, get medical attention.

Eye contact: Immediately flush eyes with plenty of water for 15 minutes. If symptoms occur, get medical attention.

Skin contact: Wash with water and mild soap.

5. Fire – fighting measures

Suitable Extinguishing Media: CO2, water spray, foam and dry chemical.

Suitable Extinguishing Media to Avoid: Full water jet

Fire and Explosion Hazards: If dispersed in air, like most finely divided organic powders, may form an explosive mixture.

Protection of fire-fighters: Use self-contained breathing apparatus (SCBA)

6. Accidental release measures

Personal precautions:	None
Environmental precautions:	None.
Methods for Cleaning-up:	Wear personal protective equipment (See Section 8).Vacuum or sweep material and place in a bag and hold for waste disposal. Use vacuum equipped with High Efficiency Particulate Air(HEPA) filter. Vacuum should be electrically bonded and grounded to dispel static electricity. To avoid dust generation, do not sweep dry.

7. Handling and storage

Handling:

Technical Measures:	None
Precautions:	Do not breathe dust. Avoid contact with eyes.
Safe Handling Advice:	Try not to disperse the particulates.

Storage:

Technical Measures:	None
Storage Conditions:	Keep container closed. Store in a cool and dry place. Keep out of reach of children.
Incompatible Products:	None
Packaging Materials:	Bottles or Cartridge designated

8. Exposure controls/personal protection

Ventilation:	None required with intended use
Hygiene measures:	Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Control Parameters (As total dust)	
ACGIH-TLV (USA):	10mg/m3(Inhalable particles), 3.0 mg/m3 (Respirable particles)
OSHA-PEL (USA):	15mg/m3(Total dusts), 5.0 mg/m3(Respirable fraction)
DFG-MAK (GER):	4mg/m3(Inhalable fraction), 1.5mg/m3 (Respirable fraction)
Worksafe-TWA (Austl.):	10mg/m3
Control Parameters (Titanium dioxide)	
ACGIH-TLV (USA):	10mg/m3
OSHA Z-Table (USA):	15mg/m3
Worksafe-TWA (Austl.):	10mg/m3
Personal Protective Equipment	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.

9. Physical and chemical properties

Physical state:	Solid
Form:	Powder (mean dia. Is 5-10 um by volume)
Color:	Yellow
pH	Not applicable
Odor:	Almost odorless
Boiling point (°C)	Not applicable
Melting point (°C / [F]):	Around No data available
Flash Point (°C):	Not applicable
Auto-Ignition Temperature (°C)	No data available
Vapor Pressure:	Not applicable
Vapor density:	Not applicable
Specific Gravity:	1,2 g/cm3
Solubility:	Insoluble in water
Partition Coefficient, n-Octanol/Water:	Not applicable
Decomposition temperature:	Not applicable

10. Stability and reactivity

Stability:	Stable except above 200 °C (392 F).
Hazardous Reactions:	Dust explosion, like most finely divided organic powders.
Conditions to avoid:	Electric discharge, throwing into fire.
Materials to Avoid:	Oxidizing materials.
Hazardous decomposition products:	CO, CO_2, NO_X and smoke.
Hazardous Polymerization:	Will not occur.

11. Toxicological information

Acute Toxicity:

Ingestion(oral), LD50(mg/kg): >2500 (Rat)
Dermal, LD50(mg/kg): no data available
Inhalation, LC50(mg/l): >5.09 (Rat,4hour)
(This was the highest attainable concentration)
Eye irritation: Minimal irritant (Rabbit)
Skin irritation: Non irritant (Rabbit)

Skin sensitizer: Non sensitizer (Guinea pig)

Local Effects: see Chronic Toxicity or Long term Toxicity

Chronic Toxicity or Long Term Toxicity:

In a two-year inhalation study of chronic toxicity and carcinogenicity using a typical toner in rats, there were no lung changes at all in the lowest exposure level (1mg/m3), the most relevant level to potential human exposures. A minimal to mild degree of fibrosis was noted in 22% of the animals at the middle exposure level (4mg/m3), and a mild to moderate degree of fibrosis was observed in 92% of the rats at the highest exposure level(16mg/m3). The lung changes observed in the higher exposure groups are interpreted in terms of "lung overloading", a series of generic responses to the presence of large quantities of respirable, insoluble and relatively benign dusts retained for extended time periods in the lungs. Lung tumor frequency was unchanged among rats exposed to toner at the three exposure levels, and for air-only control rats.

Carcinogenicity:

The IARC reevaluated titanium dioxide as a Group 2B carcinogen (possible human carcinogen). In animal chronic inhalation studies, the tumor formulation observed in only rats with animal chronic inhalation study are attributed to “lung overloading”, a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, dose not result in inhalation of excessive dust. Epidemiological study to date have not revealed any evidence of the relation between exposure to titanium dioxide and diseases of the respiratory tract beyond general effects of dust.

Mutagenicity: Negative(AMES test)
Teratogenicity: no data available

12. Ecological information

No data are available on the adverse effects of this material on the environment.

Ecotoxicity: No data available
Mobility: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available

13. Disposal considerations

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

14. Transport information

Information on Code and Classifications According to International Regulations

UN Classification: None

15. Regulatory information

EU regulations

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer, Annex I and Annex II: Not listed

Regulation (EC) No 850/2004 on persistent organic pollutants, Annex I as amended: Not listed

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals, Annex I and Annex V as amended: Not listed.

Regulation (EC) No 1907/2006 REACH, Annex XVII as amended (Restrictions on use): Not listed.

Regulation (EC) No 1907/2006 REACH, Annex XIV as amended (Authorisations): Not listed.

16. Other information

This Material Safety Data Sheet was prepared in according to the Regulation (CE) n. 1907/2006 REACH, Regulation EC n°1272/2008 and Regulation 830/2015.

Changes from the previous version:

- update section n. 2-3-4-5-6-7-8-9-10-11-12-13-14-15-16

Explanation of term: IARC 2B means "possible human carcinogen".
Abbreviations:
ACGIH-TWA: Threshold Limit Value of American Conference of Government Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
H-Code: Hazard Code
IARC: International Agency for Research on Cancer
OEL: Occupational exposure limit
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Revision Information: Regular revision on revised date.

Literature References:
ANSI Z400.1-1993
ISO 11014-1
Commission Directive 91/155/EEC

IARC(2010): IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 93, Carbon Black, Titanium Dioxide, and Talc, Lyon, pp. 43-191
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.
NIOSH CURRENT INTELLIGENCE BULLETIN :Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide :DRAFT

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