Product Name: TONER TN512K

Prepared Date:4-Nov-2010
Revised Date: 10-Mar-2021

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Name: TONER TN512K
used for: bizhub C554/C454/C554e/C454e

Supplier Identification:

Konica Minolta, Inc.
2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Telephone: +81-42-660-9409 Facsimile: +81-42-660-9417

【China】

This product is not a hazardous chemical under Regulation on Safe Management of Hazardous Chemicals in China(Decree 591).

2. HAZARDS IDENTIFICATION

Regulation (EC) No 1272/2008

Classification: Not classified as dangerous.

Hazard Communication Standard (USA)

Classification: Not classified as dangerous.

LABEL ELEMENTS

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

Other Hazards

Dust explosion (like most finely divided organic powders).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance [ ] Preparation [X]

Major Ingredients:

[Generic Name]	[CAS No.]	[%]
Styrene acrylic resin	+++	65-75
Ferrite Iron oxide	1309-37-1	1-10
. Manganese oxide	1344-43-0	1-10
Wax	+++	1-10
Carbon black	1333-86-4	1-10
Wax-2	+++	1-10
Amorphous silica	7631-86-9	1-10
Titanium dioxide	13463-67-7	<1

+++: Supplier's confidential information

Hazardous Ingredients:

Chemical Name: Carbon black
CAS No.: 1333-86-4
EINECS-No.: 215-609-9 REACH Registration number: 01-2119384822-32-XXXX
NTP(USA): Not listed IARC Monographs: Group 2B
California Proposition 65(USA): Listed
H code(EC): Not applicable DFG-MAK(GER): III 3B

Chemical Name: Titanium dioxide
CAS No.: 13463-67-7 EINECS-No.: 236-675-5
NTP(USA): Not listed IARC Monographs: Group 2B
H code(EC): Carc. 2, H351

Chemical Name: Manganese oxide
CAS No.: 1344-43-0 EINECS-No.: 215-695-8
H code(EC): Not applicable

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

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 Firefighters: 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 by Konica Minolta.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Ventilation: None required with intended use.

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)

Safe Work Australia-TWA: 10mg/m3

Control Parameters (As Ingredients: Carbon black)

ACGIH-TLV (USA): 3mg/m3

OSHA Z-Table (USA): 3.5mg/m3

Safe Work Australia-TWA: 3mg/m3

Control Parameters (As Ingredients: Titanium dioxide)

ACGIH-TLV(USA): 10mg/m3

OSHA Z-Tables(USA): 15mg/m3

Safe Work Australia-TWA: 10mg/m3

Control Parameters (As Ingredients: Manganese oxide)

ACGIH-TLV(USA): 0.1mg/m3(Mn;Inharable Fraction)
0.02mg/m3(Mn;Respirable Fraction)

OSHA Z-Tables(USA):ceiling 5mg/m3

Safe Work Australia-TWA: 1mg/m3(Mn)

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.

Hygiene Measures: Wash hands after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State: Solid	Color: Black
Form: Powder (mean dia. is 5-10 um by volume)	
Odor:	Almost odorless
PH	Not applicable
Boiling Point(°C):	Not applicable
Melting Point(°C)/[F]:	Around No data available /[] (Softening Point)
Flash Point(°C):	Not applicable
Auto-Ignition Temperature(°C):	No data available
Upper/ lower flammability or explosive limits	No data available
Explosion Properties:	No data available
Evaporation rate:	No data available
Vapor Pressure:	Not applicable
Vapor density:	Not applicable
Specific Gravity:	1.2
Solubility:	Insoluble in water.
Partition Coefficient, n-Octanol/Water:	Not applicable
Decomposition temperature:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity:	None.
Stability:	Stable except above 200C(392F).
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, CO2, NOx and smoke.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingestion(oral), LD50(mg/kg): >2000(Rat) *

Dermal, LD50(mg/kg): No data available

Inhalation, LC50(mg/l): >5.13(Rat,4hour) *

(This was the highest attainable concentration.)

Eye irritation: Practically None irritant(Rabbit) *

Skin irritation: None irritant(Rabbit) *

Skin sensitizer: Non sensitizer (Mouse) *

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 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 rats receiving chronic inhalation exposures to free carbon black at levels 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.

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

(*= Based on data for other Konica Minolta Products with similar ingredients)

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 CONSIDERATION

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

Further information: Not a dangerous good under IATA or IMDG.

Hazchem code (Austl.): None

15. REGULATORY INFORMATION

US Information

TSCA (Toxic Substances Control Act):

All chemical substances in this product comply with all applicable rules or order under TSCA.

California Proposition 65:

Ingredient carbon black and titanium dioxide subject to California Proposition 65 is bound in polymer-matrices so that warnings are not required.

CERCLA(Comprehensive Environmental Response Compensation and Liability Act) :

None.

SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance :

None.

311/312 Hazard Categories :

None.

313 Reportable Ingredients :

None.

EU Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

・Regulation (EC) No 2037/2000 of the European Parliament and of the Council on Substances That Deplete the Ozone Layer: Not applicable

・Regulation (EU) 2019/1021 of the European Parliament and of the Council on Persistent Organic Pollutants (POPs): Not applicable

・Regulation (EU) No 649/2012 of the European Parliament and of the Council on Concerning the Export and Import of Dangerous Chemicals (PIC): Not applicable

・Directive 2012/18/EU of the European Parliament and of the Council on the Control of Major-Accident Hazards Involving Dangerous Substances, Amending and Subsequently Repealing Council Directive 96/82/EC, (Seveso III): Not applicable

・Regulation (EC) No 1907/2006 of the European Parliament and of the Council:

- Annex XIV- List of Substances Subject To Authorization: Not applicable
- Annex XVII- Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: Not applicable

For this product a chemical safety assessment was not carried out.

16. OTHER INFORMATION

HMIS Rating: The National Paint and Coating Association (USA): Health: 1 Flammability: 1 Reactivity: 0

Full text of H phrases:

Carc: Carcinogenicity

H351: Suspected of causing cancer

Explanation of term: IARC 2B means "possible human carcinogen".

Abbreviations:

ACGIH-TWA: Threshold Limit Value of American Conference of Government Industrial Hygienists

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

DFG-MAK: Maximale Arbeitsplatz-Konzentration by Deutsche Forschuugsgemeinschaft

DGR: Dangerous Goods Regulations

EINECS: European Inventory of Existing Commercial Chemical Substances

H-Code: Hazard Code

HMIS: Hazardous Materials Identification System

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods Code

NTP: National Toxicology Program

OEL: Occupational exposure limit

OSHA: Occupational Safety and Health Administration

PBT: Persistent, Bioaccumulative and Toxic

SARA: Superfund Amendments and Reauthorization Act

TSCA: Toxic Substances Control Act

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

Restrictions:

The above information is believed to be accurate and represents the best information currently available to Our Corporation. However, Our Corporation makes no warranty with respect to such information, and Our Corporation assumes no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.