Date of revision : 30/11/2018

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Product name: T-478PS-NR/478SU-R
e-STUDIO478S
SDS NO. T478U-2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Toner for electrophotographic equipment

1.3 Details of the supplier of the safety data sheet

Manufacturer Toshiba TEC Corporation
Address: Gate City Ohsaki West Tower 1-11-1, Osaki, Shinagawa-ku, Tokyo, 141-8562, Japan
Telephone number: +81-3-6830-9100

Supplier

Toshiba America Business Solutions, Inc.
Emergency Telephone No. +1-800-424-9300(CHEMTREC)
For calls within the U.S.only.
+1-703-527-3887(collect calls accepted) (CHEMTREC)
Outside USA and Canada

Toshiba TEC Canada Business Solutions Inc.
75 Tiverton Court, Markham, Ontario, L3R 4M8
Telephone No.+1-905-470-3500
For calls within Canada only.

2. Hazards identification

GHS classification and label elements of the product

2.1 Classification of the substance or mixture

HEALTH HAZARDS
Acute toxicity Oral: Out of class
Acute toxicity Inhalation: Out of class

ENVIRONMENT HAZARDS
Hazardous to the aquatic environment - acute hazard: Out of class

3. Composition/information on ingredients

Mixture/Substance selection:

3.2 Mixture

Ingredient name	Weight(%)	CAS No.
Polyester Resin	75-85	-----
Carbon black	5-10	1333-86-4
Iron Oxide	1-3	1317-61-9
Amorphous Silica	1-3	-----
Polymer Wax	1-5	-----
Titanium dioxide	0.1-1	13463-67-7

----- TRADE SECRET

4. First-aid measures

4.1 Descriptions of first-aid measures

Inhalation

Remove from exposure area to fresh air immediately.

Contact a physician if there is any difficulty in breathing or other signs of distress.

Skin Contact

Gently wash with plenty of soap and water.

Wash with soap and water.

If irritation occurs or is persistent, seek medical attention

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes.

If irritation persists, call a physician.

Ingestion

Dilute stomach contents with several glasses of water.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Foam, carbon dioxide, dry chemical, water fog

Unsuitable extinguishing media

None

5.2 Special Hazards

Can form explosive dust-air mixtures when finely dispersed in air.

5.3 Advice for firefighters

Special protective equipment and precautions for fire-fighters

Wear protective gloves/protective clothing/eye protection/face protection.

6. Accidental release measures

6.1 Personnel precautions, protective equipment and emergency procedures

Wear proper protective equipment.

Avoid breathing dust.

6.2 Environmental precautions

Do not wash away into shower or waterway.

6.3 Methods and materials for containment and cleaning up

Sweep slowly spilled toner/developer and carefully transfer into a waste container.

7. Handling and storage

7.1 Precautions for safe handling

Preventive measures

Do not breathe dust.

Exhaust/ventilator

No special ventilation equipment is needed under intended use.

7.2 Conditions for safe storage, including any incompatibilities

Recommendation for storage

Store in a dry place.

Keep out of the reach of children.

7.3 Specific end use(s)

Toner for electrophotographic equipment

8. Exposure controls/personal protection

8.1 Control parameters

ACGIH

(Carbon black)

ACGIH(2010) TWA: 3mg/m3(I)

(Titanium dioxide)

ACGIH(1992) TWA: 10mg/m3 (LRT irr)

OSHA-PEL

(Titanium dioxide)

TWA 15mg/m3

(Carbon black)

TWA 3.5mg/m3

(as the product)

TWA 15mg/m3(Total dust)

5mg/m3(Respirable fraction)

DMG-MAK

(as the product)

4mg/m3 (Inhalable fraction)

1.5mg/m3 (Respirable fraction)

8.2 Exposure controls

Individual protection measures

Respiratory protection

Not required under intended use.

Hand protection

Not required under intended use.

Eye protection

Not required under intended use.

Skin and body protection

Not required under intended use.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical properties

Appearance: Powder/granule

Color: Black

Odor: Faint odor(Plastic.)

pH: Not applicable

Phase change temperature

Melting point/Freezing point: N.A.

Specific gravity/Density: 1.2g/cm3

Solubility

Solubility in water: Insoluble

9.2 Other information

Explosive Properties

Little possibility in intended use.

According to Explosive Evaluation, can form explosive dust-air mixtures when finely dispersed in air, like most finely grained organic powder.

10. Stability and Reactivity

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

None

10.5 Incompatible materials

None

10.6 Hazardous decomposition products

None

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity (Oral), Product

LD50 > 5,000mg/kg (Rat)

Germ cell mutagenicity

Ames test :Negative

Carcinogenicity

(Carbon black)

The IARC classified carbon black as a Group 2B carcinogen(possible human carcinogen). But carcinogenicity was not observed with toner containing carbon black in chronic rat inhalaration study.

(Titanium dioxide)

The IARC reevaluated titanium dioxide as a Group 2B carcinogen (possible human carcinogen). In animal chronic inhalation studies, carcinogenicity was observed in only specific rats. This is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Epidemiological study to date has not revealed any evidence of the relation between work exposure of titanium dioxide and respiratory diseases.

No reproductive toxicity data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure

Chronic Effects

In a study in rats 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 (16 mg/m3) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m3) exposure group. These findings are attributed to "lung overloading", a general response to excessive amounts of any dust retained in the lungs for a prolonged period.

No Aspiration hazard data available

12. Ecological Information

12.1 Ecotoxicity

Aquatic toxicity

Aquatic acute toxicity component(s) data

EC50 > 1,000mg/L (Daphnia) 24 hours

EC50 > 1,000mg/L (Daphnia) 48 hours

No Persistence and degradability data available

No Bioaccumulative potential data available

No Mobility in soil data available

Ozone depleting chemical data not available

13. Disposal considerations

13.1 Waste treatment methods

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

Empty plastic container may be recycled.

14. Transport Information

UN No, UN CLASS

Not applicable to UN NO.

Land DOT 49 CFR,ADR	:Not classified as Dangerous Goods
Sea IMDG Code	:Not classified as Dangerous Goods
ICAO-TI, IATA-DGR	:Not classified as Dangerous Goods

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Water Pollution Control Law, Japan

Listed substance(s)

triiron tetraoxide

US/Canada Information

Toxic Substance Control Act (TSCA)

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

California Proposition 65

Not regulated.

OSHA Hazard Communication Standard, 29CFR 1910.1200

Not regulated.

RCRA (40 CFR 261)

Product or components not listed.

CERCLA/SARA Information

Not regulated.

NTP Annual Report on Carcinogens

Not listed as an NTP carcinogen.

Hazardous Products Regulations (Canada)

This product has been classified in accordance with the hazard criteria of the HPR.

Workplace Hazardous Materials Information System (Canada)

No toxicology information available.

EU Information

Regulation (EC) No.1907/2006 (REACH)

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

Australian Information

Not classified as hazardous according to criteria of NOHSC

The substance is being imported or manufactured under a permit granted under section 21U of

the Industrial Chemicals (Notification and Assessment) Act 1989

NewZealand Information

Not classified as hazardous according to criteria of HSNO

China Information

Regulations on Safe Management on Hazardous Chemicals (China Decree 591)

All chemical substances in this product comply with all applicable rules or orders under China Decree 591.

16. Other information

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2018 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats
H.Muhle et.al; Fundamental and Applied Toxicology 17.280-299(1991)
Lung Clearance and Retention of Toner, Utilizing a Tracer Technique, during Chronic Inhalation Exposure in Rats
B.Bellmann; Fundamental and Applied Toxicology 17.300-313(1991)

Definitions and Abbreviations

OSHA PEL stands for Permissible Exposure Limit under Occupational Safety and Health Administration (USA)
ACGIH TLV stands for Threshold Limit Value under American Conference of Governmental Industrial Hygienists (USA)
DFG-MAK stands for Maximale Arbeitsplatzkonzentrationen under Deutsche Forschungsgemeinschaft
TWA stands for Time Weighted Average
IARC stands for International Agency for Research on Cancer
NTP stands for National Toxicology Program (USA)
DOT stands for Department of Transportation (USA)
NOHSC stands for National Occupational Health and Safety Commission (Australia)
ADG stands for Australian Dangerous Goods

Restrictions

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.