

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- 1.1. Product identifier  
 Mixture identification:  
 Trade name: DEVELOPER CARTRIDGE(3K)  
 Trade code: C13S050167
- 1.2. Relevant identified uses of the substance or mixture and uses advised against  
 Recommended use:  
 Toner for electrophotographic printing
- 1.3. Details of the supplier of the safety data sheet  
 Company:  
 EPSON EUROPE B.V.  
 Azie building, Atlas ArenA, Hoogoorddreef 5,1101 BA Amsterdam  
 Zuidoost The Netherlands  
 Phone number: +31-20-314-5000  
 Competent person responsible for the safety data sheet:  
 chemicals@epson-europe.com
- Date: 04/07/2019  
 Revision: 1.0
- 1.4. Emergency telephone number  
 Phone number: +31-20-314-5000

**SECTION 2: Hazards identification**

- 2.1. Classification of the substance or mixture  
 EC regulation criteria 1272/2008 (CLP)  
 The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
 Adverse physicochemical, human health and environmental effects:  
 No other hazards
- 2.2. Label elements  
 The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
 Hazard pictograms:  
 None  
 Hazard statements:  
 None  
 Precautionary statements:  
 None  
 Special Provisions:  
 None  
 Special provisions according to Annex XVII of REACH and subsequent amendments:  
 None
- 2.3. Other hazards  
 vPvB Substances: None - PBT Substances: None  
 Other Hazards:  
 No other hazards

**SECTION 3: Composition/information on ingredients**

- 3.1. Substances  
 No
- 3.2. Mixtures  
 Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
-----	------	---------------	----------------

> 90 %	Polyester resin		The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1 ~ 10 %	Carbon black	CAS: 1333-86-4 EC: 215-609-9	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1 ~ 10 %	Polyolefin wax		The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

#### **SECTION 4: First aid measures**

##### 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

##### 4.2. Most important symptoms and effects, both acute and delayed

None

##### 4.3. Indication of any immediate medical attention and special treatment needed

Treatment:

None

#### **SECTION 5: Firefighting measures**

##### 5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

##### 5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

##### 5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

#### **SECTION 6: Accidental release measures**

##### 6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

##### 6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

**SECTION 7: Handling and storage**

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

None in particular

**SECTION 8: Exposure controls/personal protection**

8.1. Control parameters

- OEL Type: JSOH - TWA: 2 mg/m<sup>3</sup> - Notes: as Class 3 Dusts (Respirable dust)

- OEL Type: JSOH - TWA: 8 mg/m<sup>3</sup> - Notes: as Class 3 Dusts (Total dust)

- OEL Type: ACGIH - TWA: 3 mg/m<sup>3</sup> - Notes: as Respirable particles

- OEL Type: ACGIH - TWA: 10 mg/m<sup>3</sup> - Notes: as Inhalable particles

Carbon black - CAS: 1333-86-4

- OEL Type: ACGIH - TWA(8h): 3 mg/m<sup>3</sup>

- OEL Type: OSHA - TWA: 3.5 mg/m<sup>3</sup>

- OEL Type: JSOH - TWA: 1 mg/m<sup>3</sup> - Notes: as Class 2 Dusts (Respirable dust)

- OEL Type: JSOH - TWA: 4 mg/m<sup>3</sup> - Notes: as Class 2 Dusts (Total dust)

- Notes: as total dust

DNEL Exposure Limit Values

No data available

PNEC Exposure Limit Values

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls:

None

8.2.2. Individual protection measures, such as personal protective equipment

Eye protection:

Use personal protective equipment as required.

Protection for skin:

Use personal protective equipment as required.

Protection for hands:

Use personal protective equipment as required.

Respiratory protection:

Use personal protective equipment as required.

Thermal Hazards:

None

8.2.3. Environmental exposure controls:

None

**SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

Appearance and colour:	Black Powder
Odour:	Slightly
Odour threshold:	No data available
pH:	Not Relevant
Melting point / freezing point:	120 ~ 130 °C
Initial boiling point and boiling range:	No data available
Solid/gas flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour density:	No data available
Flash point:	Not Relevant
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	No data available
Solubility in water:	Insoluble
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	Not Relevant
Explosive properties:	Under normal use conditions, possibility of dust explosion is extremely low. However, when a dust explosion test is carried out, the explosion class of toner calculated from the rate of pressure rise is classified into the same rank as wheat flour, powdered milk, resin powder and the like. (Ref. 1)
Oxidizing properties:	No data available

9.2. Other information

Miscibility:	No data available
Fat Solubility:	No data available
Conductivity:	No data available

**SECTION 10: Stability and reactivity**

- 10.1. Reactivity  
Stable under normal conditions
- 10.2. Chemical stability  
Stable under normal conditions
- 10.3. Possibility of hazardous reactions  
None
- 10.4. Conditions to avoid  
Stable under normal conditions.
- 10.5. Incompatible materials  
None in particular.
- 10.6. Hazardous decomposition products  
None.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Toxicological information of the product:

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg

## Safety Data Sheet

- Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg  
Test: LC50 - Route: Inhalation Dust - Species: Rat > 0.74 mg/l - Duration: 4h
- b) skin corrosion/irritation:  
Test: Skin Irritant - Species: Rabbit Non-irritant
- c) serious eye damage/irritation:  
Test: Eye Irritant - Species: Rabbit Non-irritant
- e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli  
Negative
- f) carcinogenicity:  
Components do not come under carcinogens (Ref. 2), except for Carbon black
- g) reproductive toxicity:  
Does not contain reproductive toxicity and developmental toxic substances (Ref. 3)
- i) STOT-repeated exposure:  
Prolonged inhalation of excessive dust may cause lung damage. It is 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, does not result in inhalation of excessive dust.  
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 rats in the high concentration (16mg/m<sup>3</sup>) exposure group, and a minimal to mid degree of fibrosis was noted in 22% of the animals in the middle (4mg/m<sup>3</sup>) exposure group. But no pulmonary change was reported in the lowest (1mg/m<sup>3</sup>) exposure group, the most relevant level to potential human exposures.(Ref. 4)

Toxicological information of the main substances found in the product:

Carbon black - CAS: 1333-86-4

In 1996 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 mice 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.

If not differently specified, the information required in Regulation (EU) 2015/830 listed below must be considered as 'No data available':

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.  
Toxicological information of the product:

- No data available  
Toxicological information of the main substances found in the product:  
No data available
- 12.2. Persistence and degradability  
No data available
- 12.3. Bioaccumulative potential  
No data available
- 12.4. Mobility in soil  
No data available
- 12.5. Results of PBT and vPvB assessment  
vPvB Substances: None - PBT Substances: None
- 12.6. Other adverse effects  
None

### **SECTION 13: Disposal considerations**

- 13.1. Waste treatment methods  
Recover if possible. In so doing, comply with the local and national regulations currently in force.

### **SECTION 14: Transport information**

- 14.1. UN number  
Not classified as dangerous in the meaning of transport regulations.
- 14.2. UN proper shipping name  
No data available
- 14.3. Transport hazard class(es)  
No data available
- 14.4. Packing group  
No data available
- 14.5. Environmental hazards  
No data available
- 14.6. Special precautions for user  
No data available
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code  
No data available

### **SECTION 15: Regulatory information**

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Dir. 98/24/EC (Risks related to chemical agents at work)  
Dir. 2000/39/EC (Occupational exposure limit values)  
Regulation (EC) n. 1907/2006 (REACH)  
Regulation (EC) n. 1272/2008 (CLP)  
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013  
Regulation (EU) 2015/830  
Regulation (EU) n. 286/2011 (ATP 2 CLP)  
Regulation (EU) n. 618/2012 (ATP 3 CLP)  
Regulation (EU) n. 487/2013 (ATP 4 CLP)  
Regulation (EU) n. 944/2013 (ATP 5 CLP)  
Regulation (EU) n. 605/2014 (ATP 6 CLP)  
Regulation (EU) n. 2015/1221 (ATP 7 CLP)  
Regulation (EU) n. 2016/918 (ATP 8 CLP)  
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
- Restrictions related to the product or the substances contained according to Annex XVII  
Regulation (EC) 1907/2006 (REACH) and subsequent modifications:  
Restrictions related to the product:

No restriction.

Restrictions related to the substances contained:

No restriction.

Where applicable, refer to the following regulatory provisions :

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents).

Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

**SECTION 16: Other information**

This safety data sheet has been completely updated in compliance to Regulation 2015/830.

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,  
Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van  
Nostrand Reinold

- Ref. 1 ·Measures to prevent dust explosion: p. 98 - p. 105 (Japan Industrial Safety and Health Association)
- Ref. 2 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC: International Agency for Research on Cancer)  
·Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))  
·TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)  
·IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)  
·National Toxicology Program (NTP) Report on Carcinogens (USA)  
·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006  
·MAK und BAT Werte Liste (DFG: German Research Foundation)  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)
- Ref. 3 ·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)
- Ref. 4 ·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)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

## Safety Data Sheet

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This Safety Data Sheet cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.