
SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier: Toner mixture for printer cartridge, CLT-K806S

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

Relevant identified uses: Toner used for printing systems (industrial and consumer).

Uses advised against:

Relevant identified uses: This product is a toner mixture that is used in printing systems.

Uses advised against: Do not use with non compatible printer

1.3 Details of the supplier of the safety data sheet:

Producer: SAMSUNG ELECTRONICS Co. Ltd.

416, maetan-3Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, 443-742, Korea

E-mail: PrinterMSDS@samsung.com

1.4 Emergency telephone number: 1-800-SAMSUNG(726-7864)_USA, <http://www.samsung.com>

SECTION 2 : HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008: Mixture is not classified as dangerous according to Regulation (EC) No 1272/2008.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008: Not applicable.

2.3 Other hazards:

Chronic health effects: Prolonged inhalation of excessive amounts of any dust may cause lung damage. Use of this product as intended does not result in inhalation of excessive amounts of dust.

Carcinogenicity: Carbon black is classified by the International Agency for Research on Cancer (IARC) as a Group 2B carcinogen (possibly carcinogenic to humans). However due to its bound nature scientific results support a conclusion that carbon black in printer toners is not subject to consumer warning.

Other information: This preparation contains no component classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) as defined under Regulation (EC) 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: Not relevant.

3.2 Mixtures:

Substance name	EC/CAS No.	Classification (CLP)			Conc. (%)
		Hazard Class and Category Code(s)	Hazard statement	Pictogram/Signal word	
Polyester Resin	Trade Secret	-	-	-	60~74
¹ Ceramic materials and wares, chemicals	Trade Secret	-	-	-	8~15
¹ Carbon black	215-609-9 / 1333-86-4	-	-	-	10~15
¹ Paraffin waxes and Hydrocarbon waxes	Trade Secret	-	-	-	8~15
¹ Silicon dioxide	Trade Secret	-	-	-	2~10
¹ Titanium dioxide	Trade Secret	-	-	-	<1.5

¹Substance is not classified under Regulation (EC) No 1272/2008 Annex VI.

* Classification according to manufacturer.

SECTION 4 : FIRST-AID MEASURES

4.1 Description of first aid measures:

General advice

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Brush off loose particles from skin. - Rinse skin with water/shower.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed: The most important Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed: None.

SECTION 5 : FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: water, foam, alcohol resistant foam, ABC-powder.

Unsuitable extinguishing media: water jet.

5.2 Special hazards arising from the substance or mixture: Deposited combustible dust has considerable explosion potential.

Hazardous combustion products: nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂).

5.3 Advice for firefighters: In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Remove persons to safety.

For emergency responders: Wear breathing apparatus if exposed to vapours/dust/spray/ gases.

6.2 Environmental precautions: Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up:

Advices on how to contain a spill: Covering of drains. - Take up mechanically.

Advices on how to clean up a spill: Take up mechanically. Collect spillage (sawdust, kieselgur (diatomite), sand, universal binder).

Other information relating to spills and releases: Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections: Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7 : HANDLING AND STORAGE

7.1 Precautions for safe handling:**7.1.1 Recommendations**

Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

Warning: Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

7.1.2 Advice on general occupational hygiene: Wash hands after use. Do not to eat, drink and smoke i

n work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Managing of associated risks:

Explosive atmospheres: Removal of dust deposits.

7.2.2 Incompatible substances or mixtures: Observe hints for combined storage.

7.2.3 Consideration of other advice

Ventilation requirements: Use local and general ventilation.

7.3 Specific end use(s): See section 16 for a general overview.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Occupational exposure limit values listed in Commission Directive 2000/39/EC:

Exposure limit values for substances were not determined.

Biological monitoring guidance values (BMGVs):

Biological values for substances were not determined.

Relevant DNELs/PNECs and other threshold levels

- relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Ceramic materials and wares, chemicals	Trade Secret	DNEL	15.63 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Carbon black	1333-86-4	DNEL	15.63 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Carbon black	1333-86-4	DNEL	2.5 mg/m ³	human, inhalatory	worker (industry)	acute – systemic effects
Carbon black	1333-86-4	DNEL	1.25 mg/m ³	human, inhalatory	worker (industry)	chronic – systemic effects

- relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Carbon black	1333-86-4	PNEC	0.075 mg/m ³	aquatic organisms	freshwater	short – term (single instance)

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: General ventilation.

8.2.2 Individual protection measures, such as personal protective equipment:

8.2.2.1 Eye/face protection: Wear eye/face protection.

8.2.2.2 Skin protection:

Hand protection: Wear protective gloves.

Other: Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

8.2.2.3 Respiratory protection: Particulate filter device (EN 143).

8.2.2.4 Thermal hazards: No data available.

8.2.3 Environmental exposure controls: Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties:**

Appearance:	powder
Colour:	black
Odour:	odourless
pH:	not applicable
Melting point/freezing point:	not available
Initial boiling point and boiling range:	not applicable
Flash point:	not applicable
Evaporation rate:	not applicable
Flammability (solid, gas):	not available
Upper/lower flammability or explosive limits:	not flammable
Vapour pressure :	not applicable
Vapour density:	not applicable
Relative density:	1.2 g/ml
Solubility(ies):	partially soluble in toluene, chloroform and tetrahydrofurane
Partition coefficient: n-octanol/water:	not available
Auto-ignition temperature:	not applicable
Viscosity:	not applicable
Explosive properties:	none
Oxidising properties:	none

9.2 Other information:

Solvent content: 0%

Solid content: 100%

SECTION 10 : STABILITY AND REACTIVITY

10.1 Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability: See below „Conditions to avoid“.

10.3 Possibility of hazardous reactions: See below "Conditions to avoid".

10.4 Conditions to avoid: There are no specific conditions known which have to be avoided.

Hints to prevent fire or explosion: The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Physical stresses which might result in a hazardous situation and have to be avoided: strong shocks

10.5 Incompatible materials: There is no additional information.

10.6 Hazardous decomposition products: Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects: Test data are not available for the complete mixture.

Substances: No data available.

Mixtures:

Acute toxicity: Shall not be classified as acutely toxic.

Skin corrosion/irritation: Shall not be classified as corrosive/irritant to skin.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory or skin sensitisation: Shall not be classified as a respiratory or skin sensitiser.

Carcinogenicity: Carbon black is classified by the International Agency for Research on Cancer (IARC) as a Group 2B carcinogen (possibly carcinogenic to humans). However due to its bound nature scientific results support a conclusion that carbon black in printer toners is not subject to consumer warning.

Germ cell mutagenicity: Ames test: Negative(TA98, TA100, TA1535, TA1537, TA1538, WP2uvrA) (Information on product)

Reproductive toxicity: Not classified as toxic according to EU Directive 67/548/EEC and as amended, California Prop. 65, and DFG(Germany)

Specific target organ toxicity (STOT): Shall not be classified as a specific target organ toxicant.

Aspiration hazard: Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics:

Other information:

Carcinogenic effects: 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 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 a 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 concentration (16mg/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. But no pulmonary changes were reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

SECTION 12 : ECOLOGICAL INFORMATION

12.1 Toxicity:

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture:

ceramic materials and wares, chemicals:

Fish toxicity: LC50 457 mg/L/96h

Aquatic invertebrates toxicity: EC50 1.9 mg/L/48h

Algae toxicity: ErC50 184.6 mg/L/72h

Aquatic toxicity (chronic) of components of the mixture:

ceramic materials and wares, chemicals:

Fish toxicity: LC50 1.94 mg/L/16d

Fish toxicity: EC50 0.151 mg/L/7d

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: No data available.

12.6 Other adverse effects: No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Sewage disposal-relevant information: Do not empty into drains. Avoid release to the environment.

Refer to special instructions/safety data sheets.

13.2 Relevant provisions relating to waste:

List of wastes: not assigned

13.3 Remarks: Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14 : TRANSPORT INFORMATION

14.1 UN number: Not subject to transport regulations.

14.2 UN proper shipping name: Not relevant

14.3 Transport hazard class(es): -

14.4 Packing group: Not relevant

14.5 Environmental hazards: None (non-environmentally hazardous acc. To the dangerous goods regulations)

14.6 Special precautions for user: No data available.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: The cargo is not intended to be carried in bulk.

14.8 CER Code: 08 03 18

SECTION 15 : REGULATORY INFORMATION

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

The substances in the mixture are not subject to the authorization under Title VII nor restrictions under Title VIII of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment: Chemical safety assessment for substances in this mixture is not available.

SECTION 16 : OTHER INFORMATION

List of relevant hazard statements: -

Instructions for the training: Product handling instruction shall be included into the educational system about the safety work (initial training, training at the workplace, repeated training) according to specific conditions at the workplace.

Recommended restrictions on use (i.e. non-statutory recommendations by supplier):

Substance should not be used for any other purpose than for which is appointed (point 1.2). Because of the fact that specific conditions of use of substance are out of supplier's control, it is responsibility of the user to adjust the prescribed warnings to local laws and regulations. Safety information describes the product in terms of safety and it cannot be considered as technical information about product.

Sources of key data used to compile the Safety Data Sheet: SDS was elaborated according to requirements set in Annex II of Regulation (EC) No 1907/2006 of the European Parliament and of the Council. Calculation method was used to derive the classification of mixture for health hazards. SDS was prepared using data from the producer. This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Purpose of SDS: Purpose of this SDS is to provide relevant information for users of product to ensure proper handling and control of risks/hazards.

Abbreviations and acronyms

2000/39/EC	Comission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and

	mixtures
DNEL	Derived No-Effect Level
Eye Dam.	seriously damaging to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
vPvB	very Persistent and very Bioaccumulativ
Xi	irritant
Xn	harmful

For more information, please visit: www.samsung.com/printer

Printing solutions
as easy as

