Safety Data Sheet

According to Regulation (EC) No 1907/2006 and REGULATION (EC) No 1272/2008

SECTION 1 Identification of the substance/preparation and of the company/undertaking

1.1. Product identifier:

Product Name: TMC-013 BLACK

Product Code: TMC-013

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

Relevant identified uses: Toner for electrophotographic apparatus

Descriptor: Industrial uses (SU3), Ink and toners (PC18)

1.3. Details of the supplier of the safety data sheet:

Supplier: Zhuhai Ninestar Information Technology Co., LTD

Address: No.3883,Zhuhai Avenue, Xiangzhou District Zhuhai, Guangdong P.R. China

Telephone number: (0086)-756-8539188 FAX number:-

E-mail address: info.ggimage.com

1.4. Emergency telephone number: +44 1189238800

SECTION 2 Hazards identification

2.1 Classification of the Substance or mixture:

Classification according to Regulation (EC) No 1272/2008 [CLP]

Not classified as a hazardous mixture

2.2 Label elements:

Labeling according to Regulation (EC) No 1272/2008 [CLP]

None

2.3 Other hazards:

None

SECTION 3 Composition/information on ingredients

3.2 Mixtures:

Ingredient Name	Weight %	CAS No.	Classification according to CLP
Polyester resin	80-95	Confidential	None
Carbon black	<10	1333-86-4	None
Wax	1-5	Confidential	None
Silica	1-5	67762-90-7	None
Zinc(II) complex dye*	<1	42405-40-3	Flam. Sol. 1, H228 Acute Tox. 4, H302 Aquatic Acute 2, H400 Aquatic Chronic 2, H410

See SECTION 16 for full text of Classification Hazard Statements

** Zinc,(bis[3,5-di(tert-butyl)-2-hydroxybenzoato-O1,O2],(T-4)*

SECTION 4 First aid measures

4.1 Description of first aid measures:

Immediate medical procedures: None

Inhalation: Move to fresh air and gargle with water.

Skin contact: Wash with soap and water.

Eye contact: Do not rub. Flush with large amount of water until particles are removed. Seek medical advice

Ingestion: Rinse mouth, then drink several glasses of water to dilute stomach content. Seek medical advice.

4.2 Most important symptoms, both acute and delayed:

Inhalation of excessive amounts of dust may cause physical irritation to respiratory system.

4.3 Indication of any immediate medical attention and special treatment needed:

None

SECTION 5 Firefighting measures

5.1 Extinguishing media:

Water, CO_2, dry chemicals

5.2 Special hazards arising from substance or mixture:

Can form explosive dust-air mixture if finely dispersed in air.

5.3 Advice for firefighters:

Avoid inhalation of fume and smoke.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid breathing dust. Dust-proof masks should be worn when working.

6.2 Environmental precautions:

Do not flush into sewer or natural watercourse.

6.3 Methods and material for containment and cleaning up:

For containment: Keep in air-tight container.

For cleaning up: Sweep the spilled powder slowly.
Clean the remainder with wet cloth, wet paper, or vacuum cleaner.
Vacuum cleaner must be equipped with dust proof filter and be explosion-proof.

For containment: Keep in air-tight container.

SECTION 7 Handling and storage

7.1 Precautions for safe handling:

Avoid breathing dust. Keep away from ignition sources.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry location away from direct sunlight.

7.3 Specific end use(s):

For use in electrophotographic apparatus such as laser-beam printers and copiers.

SECTION 8 Exposure controls/personal protection

8.1 Control parameters:

As mixture: Dust, respirable

	Limit value –Eight hours		Limit value –Short term	
Country	ppm	mg/m^3	ppm	mg/m^3
European Union	**Not established**	**Not established**	**Not established**	**Not established**
Austria	-	5	-	10
Belgium	-	3	-	-
France	-	5 (respirable aerosol)	-	-
Germany (AGS)	-	1.25	-	-
Germany (DFG)	-	1.5	-	-
Hungary	-	6	-	-
Ireland	-	4	-	-
Spain	-	3	-	-
Sweden	-	5	-	-
Switzerland	-	3	-	-
USA (ACGIH)	-	3	-	-
USA (OSHA PEL)	-	5	-	-

Applicable control parameters are not established in other Community Members not listed

Constituent substances:

This mixture is considered as a “Special Mixture” where substances are modulated by their inclusion within the matrix of the mixture; thus, control parameters for constituent substances do not apply in use of this mixture.

8.2 Exposure controls:

Appropriate engineering controls:

Use of local ventilation is recommended.

Individual protection measures:

Eye/face protection: Protective goggles should be used when handling bulk.

Skin Protection: Full protective suits should be used when handling bulk.

Hand protection: Protective gloves should be used when handling bulk.

Respiratory protection: Dust-proof mask should be used when handling bulk.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical state: Solid, powder

Color: Black

Odor: Slight odor

pH: Not applicable

Melting point: App. 120°C (flow temperature)

Zinc(II) complex salt: *242.7-244.2℃*

Boiling point: Not applicable

Flash point: Not applicable

Evaporation rate: Not applicable

Flammability: Not classified, Not flammable

Zinc(II) complex salt: *Highly flammable. (Test method A10); Flam. Sol.1*

Explosive limits: Not available

Vapor pressure: Not applicable

Vapor density: Not applicable

Relative density: 1.1-1.3

Solubility:	Insoluble to water, partially soluble to toluene and xylene
Zinc(II) complex salt:	*187.7mg/l in water, 478mg/100g Fat*
Partition coefficient:	Not available
Zinc(II) complex salt:	*Log P_{ow}=2.32 at 18°C*
Auto-ignition temperature:	Not available
Decomposition temperature:	>200°C
Viscosity:	Not applicable
Explosive properties:	Not available
Oxidizing properties:	Not available
Zinc(II) complex salt:	*Oxidizing substance. (Max Burning Rate =1.98mm/s)*
9.2 Other information:	Average particle size: app. 8 microns
	Explosive dust-air mixture is formed when finely dispersed in air

SECTION 10 Stability and reactivity

10.1 Reactivity:	No data
10.2 Chemical stability:	Stable
10.3 Possibility of hazardous reactions:	No data
10.4 Conditions to avoid:	Do not disperse in air with ignition source.
10.5 Incompatible materials:	No data
10.6 Hazardous decomposition products:	Decomposition will not occur under intended uses.

SECTION 11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity:	Not classified*
Inhalation:	LC_{50}: inh-rat > 5.19mg/L/4 hours (maximum concentration achieved)
Ingestion:	LD_{50}: oral-rat > 2500mg/kg body weight
Zinc(II) complex salt:	*Acute Tox. 4*
Oral:	*LD_{50}(Rat): 1,800 mg/kg*
Dermal:	*LD_{50}(Rat): >2,000 mg/kg*
Inhalation:	*LC_{50}:Not available*
Skin corrosion/irritation:	Not classified, Rabbit-4hr; not irritant*
Serious eye damage/irritation:	Not classified, Rabbit-3days; not irritant*
Skin sensitization:	Not classified, Guinea pig–maximization; not a sensitizer*
Germ cell mutagenicity:	Ames test Negative
Carcinogenicity:	Not available

Carbon black contained in this toner is classified as “group 2B” (possibly carcinogenic to humans) by IARC. However, long-term inhalation test on rats using a toner preparation containing carbon black did not show any carcinogenic effects.

Thus, enough data to classify carcinogenicity of this toner mixture is concluded to be “Not available”.

Substance carbon black: *Substance is listed as “group 2B” by IARC, but not classified by the Community or US NTP, OSHA or ACGIH. US NIOSH in 1978 issued a document to recommend exposure limits for carbon black dust with more than 0.1% content of PAH. The carbon black used in this mixture contain far less concentration of PAH and is processed to avoid generation of respirable or inhalable dusts. Thus, carcinogenicity of this substance is concluded to be “Not available”.*

Reproductive toxicity:	Not available, No constituent components are classified
STOT-single exposure:	Not available, No constituent components are classified
STOT-repeated exposure:	Not available

In study of rats exposed to a toner containing carbon black, mild degree of lung fibrosis was observed in groups exposed to high concentration (16mg/m^3) and mid-concentration (4mg/m^3), but no pulmonary change was reported in the group exposed to low concentration (1mg/m^3). In normal conditions of use (in electro-photographic apparatus) maximum concentration of toner released is significantly lower than 1mg/m^3 and will have no chronic effects to human health. In cases where this product is used in bulk for purpose such as filling, cleaning, etc. of the apparatus, exposure should be controlled with care according to Sections 7 and 8. Thus, enough data to classify STOT-RE of this toner mixture is concluded to be "Not available".

Substance carbon black: *Results of epidemiological studies of carbon black production workers suggest that cumulative exposure may result in small decrements in lung function. The relationship between other respiratory symptoms and exposure to carbon black is not clear. The carbon black used in this mixture is processed to minimize generation of respirable dusts. Thus, STOT-RE of this substance is concluded to be "Not available".*

Aspiration hazards: Not available, No constituent components are classified

11.2 Information on other hazards:

11.2.1. Endocrine disrupting properties:

None

**data from toner with similar composition*

SECTION 12 Ecological information

12.1 Toxicity:

Not classified*

Fish (*Oryzias latipes*): LC_{50}(96hr) > 100mg/L (WAF)

Crustaceans (*Daphnia magna*): EC_{50}(48hr) > 100mg/L (WAF)

Algae (*Pseudokirchneriella subcapitata)*: E_rL_{50}(0-72h)>100 mg/L, NOELR=100mg/L (WAF)

Zinc(II) complex salt: Aquatic Acute 1

Fish(Oryzias latipes): LC_{50}(96hr): 5.5mg/L

Crustaceans(Daphnia magna): EC_{50}(48hr): 0.73mg/L (NOEL: 0.5mg/l)

Algae(Pseudokirchneriella subcapitata): E_bL_{50}(72h): 0.64mg/l, (NOEC: 0.20mg/l)

12.2 Persistence and degradability:

Not available

Zinc(II) complex salt: Not readily biodegradable. (15% after 28days)

12.3 Bioaccumulative potential:

Not available

Zinc(II) complex salt: Log P_{ow}=2.32; Not suspected to be bioaccumulative.

12.4 Mobility in soil:

Not available

12.5 Results of PBT and vPvB assessment:

This mixture does not contain any substance that are assessed to be PBT or vPvB.

12.6 Endocrine disrupting properties:

Not available

12.7 Other adverse effects:

Not available

**data from toner with similar composition*

SECTION 13 Disposal consideration

13.1 Waste treatment methods

Dispose according to local authority requirements.
Waste should not be released to sewer or natural watercourse.
DO NOT put toner powder or container into fire.

SECTION 14 Transport information

14.1 UN or ID number: None

14.2 UN proper shipping name: None

14.3 Transport hazard class(es):

ADR / RID / ADN: None
IMDG Code: None
ICAO-TI / IATA-DGR: None

14.4 Packing group: None

14.5 Environmental hazards: Not classified as environmentally hazardous under UN Model Regulations.
Not classified as marine pollutant under IMDG Code.

14.6 Special precautions for user: Handling such as exposure to water, rolling, falling, or giving shock to the container may result in breakage of the inner bag and result in scattering of the mixture.
Avoid direct sunlight and hot places. (See also: Section 7)

14.7 Maritime transport in bulk according to IMO instruments:

None

SECTION 15 Regulatory information

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

EU Regulations:

Regulation (EC) No 1272/2008 [CLP]

Not classified as hazardous mixture, label not required

Regulation (EC) No 1907/2006 [REACH]

Restricted substances: None
SVHC: None *Up to 28th updated list issued 17-Jan.-2023*

National regulations:

France: French enforcement Decree no. 2012-232 of 17-February, 2012

Substances “Carbon black” and “Silica” are considered as nanomaterial, but they are considered to be modulated by their inclusion within the matrix of the mixture; thus, they are not considered to be “contained without being linked to the mixture”.

Germany: Wassergefahrdungsklasse (WGK)

Substance “Zinc(II) complex dye” are considered as aquatic toxicity, but this toner is not classified in EU regulation. See SECTION 12 for details.

15.2 Chemical safety assessment: None

SECTION 16 Other information

Issued according to (EC) 453/2010 Annex II amendment of REACH Annex II
This SDS conforms to Regulation (EU) No.1907/2006 and 2020/878, US OSHA Hazcom 2012 (29 CFR1910.1200), Canada WHMIS 2015 and the GHS.

Indication of changes:

14-Feb.-2023: Revised to comply with Regulation (EC) No 2020/878

Abbreviation

27-Feb.-2008: First issued

Abbreviations and acronyms:

FAX:	Facsimile
CLP:	Classification Labelling Packaging regulation
Flam. Sol.	Flammable Solid
Tox.	Toxicity
Corr.	Corrosivity
Irrit.	Irritation
Dam.	Damage
Sens.	Sensitization
Muta.	Mutagenicity
CAS:	Chemical Abstract Service
REACH:	Registration, Evaluation, Authorization, and Restriction of Chemicals
ppm:	parts per million (weight/weight)
AGS	Ausschuss für Gefahrstoffe
DFG	Deutsche Forschungsgemeinschaf
USA	United States of America
ACGIH:	American Conference of Governmental Industrial Hygienists
TWA:	Time weighted Average
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
app.	approximately
LC_{50}	Lethal Concentration to 50% of test population
LD_{50}	Lethal Dose to 50% of test population
IARC:	International Agency for Research on Cancer
NTP:	National Toxicology Program
NIOSH:	National Institute of Occupational Safety and Health
PAH:	Polycyclic Aromatic Hydrocarbons
STOT-SE:	Specific Target Organ Toxicity –Single Exposure
STOT RE	Specific Target Organ Toxicity –Repeated Exposure
WAF	Water Accommodated Fraction
EC_{50}	Effective Concentration to 50% of test population
NOEC	No Observed Effect Concentration
E_rL_{50}	Effective Loading rate that causes growth rate reduction to 50%
NOELR	No Observed Effect Loading Rate
E_bL_{50}	Effective Loading rate that causes 50% reduction in algal cell biomass
PBT	Persistent, Bioaccumulative, and Toxic
vPvB:	very Persistent and very Bioaccumulative
UN	United Nations
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail
ADN:	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG	International Maritime Dangerous Goods
IATA-DGR:	International Air Transport Association Dangerous Goods Regulations
ICAO-TI:	Technical Instructions for the Safe Transport of Dangerous Goods by Air
SVHC:	Substances of Very High Concern

Full text of Classification Hazard Statements:

H228	Flammable solid
H302	Harmful if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Although the information contained in this SDS is prepared to be accurate to the best of our knowledge, please be aware that health and hazard assessment may not be enough and complete.
Since SDS may be revised due to regulation changes or product modifications, please confirm if this is the latest version, especially if the revision date is outdated for two years.