

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PART NUMBER BC2025B

PRODUCT DESCRIPTION HP 2025 Toner Black

SUPPLIER Clover Technologies Group
4200 Columbus Street
Ottawa, IL 61350

EMERGENCY TELEPHONE (815) 431-8100

2. COMPOSITION/INFORMATION ON INGREDIENTS

Information on Ingredients:

Ingredients	CAS Number	% in mixture	TSCA listed/exempted
Styrene acrylate copolymer	Trade secret	70-90	Yes
Carbon black	1333-86-4	3-10	Yes
Wax	Trade secret	5-15	Yes
Amorphous silica	Trade secret	<5	Yes

Refer to Section 8 for the exposure limits and Section 11 for toxicological Information.

3. HAZARDS IDENTIFICATION

Emergency overview

This mixture is fine black powder with no or slight plastic-like odor.
This mixture may cause irritation of the respiratory system, eyes and skin.
This mixture, like most organic powders, can cause a dust explosion if particles form thick clouds.

Acute health effects

Eye contact: Irritation may occur by mechanical abrasion.

Skin contact: Minimal skin irritation may occur.

Inhalation: Slight irritation of respiratory tract may occur with exposure to large amount of toner dust.

Ingestion: Ingestion is an unlikely route of entry under normal conditions of use.

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Carcinogenicity

Carbon black is listed by IARC as a group 2B (possibly carcinogenic to human), but this classification is based on rat "lung particulate overload" studies. IARC monograph vol. 93 states that no significant exposure to carbon black is thought to occur during the use of products in which carbon black is bound to other materials, such as rubber, printing ink or paint. Carbon black in this mixture is in a bound form.

Other information

This mixture is not classified as hazardous according to the latest adaptations of EU Directive 1999/45/EC.

4. FIRST AID MEASURES

Immediate medical attention may be required in the unlikely event of extreme inhalation, eye contact or unusual reaction due to physical idiosyncrasy of the person.

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| Inhalation: | Provide fresh air immediately. If symptoms occur, seek medical advice. |
| Skin contact: | Wash out particles with plenty of water and soap. If irritation develops, seek medical advice |
| Eye Contact: | Do not rub eyes. Immediately rinse with plenty of clean running water until particles are washed out. If irritation persists, seek medical advice. |
| Ingestion: | Clean mouth out with water. Drink several glasses of water. If sickness develops, seek medical advice. |

5. FIRE-FIGHTING MEASURES

- | | |
|---|---|
| Suitable extinguishing media: | Carbon dioxide, water, foam, dry chemical |
| Extinguishing media which Shall not be used: | None known |
| Special exposure hazards arising from the mixture itself, combustion products, or resulting gases: | Toner, like most organic powders, is capable of creating a dust explosion when particles are dispersed. Carbon monoxide and carbon dioxide are hazardous resulting gases. |
| Special protective equipment for Fire-fighters: | None known |

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Avoid dust formation. Do not breathe dust.

Wear personal protective equipment as described in Section 8.

Environmental precautions:

Do not discharge into drains.

Methods for cleaning up:

Eliminate sources of ignition and flammables. Vacuum or sweep the material into a sealed container. If a vacuum cleaner is used, it must be dust explosion-proof. Dispose of the material in accordance with Federal/state/local requirements.

7. HANDLING AND STORAGE

7.1 Handling precautions

Keep out of reach of children.

Avoid dust formation. Handle in adequately ventilated area.

Do not breathe dust. Do not get in eyes or on skin.

Keep away from excessive heat and sources of ignition such as sparks and open flames.

Ensure all the equipment is electrically earthed/grounded before beginning operation.

7.2 Store

Keep out of the reach of children.

Keep container closed and store at room temperature,

Keep away from excessive heat and sources of ignition.

Do not store with strong oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values:

Mixture as particulate not otherwise classified

OSHA PELs(TWA): 15mg/m³ (Total dust), 5mg/m³ (Respirable fraction)

ACGIH TLV (TWA): 10mg/m³ (Inhalable particulate), 3 mg/m³ (Respirable Particulate)

Carbon black

OSHA PELs (TWA): 3.5 mg/m³

ACGIH TLV (TWA): 3.5 mg-m³

Amorphous silica

OSHA PELs (TWA): 20 MPPCF* OR 80/%SiO₂ mg/m³ (*million particles per Cubic foot)

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Exposure Controls:

Occupational exposure controls

Good general ventilation should be sufficient under normal conditions of use.

Gloves are recommended.

Protective goggles or safety glasses are recommended.

Personal respiratory mask is not required under normal conditions of use, but a respirator is needed in case of dust formation.

Environmental exposure controls

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance:	Fine black powder
Odor:	None or slight plastic-like odor

Important health, safety and environmental information:

pH:	Not applicable
Boiling point/boiling range:	Not applicable
Flash point:	Not applicable
Flammability:	Not flammable
Explosive properties:	Not data available
Oxidizing properties:	No data available
Vapor pressure:	Not applicable
Specific gravity:	1.0-1.5 (water=1)
Solubility:	Partially soluble in toluene and tetrahydrofuran
Water solubility:	Negligible
Partition coefficient (n-octanol/water):	Not applicable
Viscosity:	Not applicable
Vapor density:	Not applicable
Evaporation rate:	Not applicable

Other information

None

10. STABILITY AND REACTIVITY

This material is stable under normal conditions of use and storage.

No hazardous polymerization will occur.

No significant reaction will occur with air or water at room temperature.

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Condition to avoid

Excessive heat
Dust formation

Materials to avoid

Strong oxidizers, which could vigorously oxidize organic materials in this mixture and cause a fire in an extreme case.

Hazardous decomposition products

Carbon monoxide and carbon dioxide when combusted.

11. TOXICOLOGICAL INFORMATION

According to our test results of this or similar mixture and the information provided by the suppliers about the substances contained in this mixture, seriously damaging effect is not expected when this mixture is treated in accordance with standard industrial practices and Federal/state/local requirements. Refer to Section 2 for potential health effects and Section 4 for first aid measures.

Acute toxicity

- Oral:** LD50 rat > 5,000 mg/kg (OECD 425), not harmful. (a similar product)
- Inhalation:** LC50 rat > 5.36 mg/L (OECD 403) (a similar product)
None of the substances in this mixture is classified for Acute inhalation toxicity according to EU Directive 67/548/EEC.
- Dermal:** LD50 rat > 5,000 mg/kg (OECD 402) (s similar product)
None of the substances in this mixture is classified as irritant according to OSHA Hazard Communication Standard 29 CFR 1910.1200 or for acute dermal toxicity according to EU Directive 67/548/EEC.
- Eye irritation:** No test data available.
None of the substances in this mixture is classified as eye irritant EU Directive 67/548/EEC.
- Skin irritation:** No test data available.
None of the substances in this mixture is classified as a skin irritant according to OSHA Hazard Communication Standard 29 CFR 1910.1200 or EU Directive 67/548/EEC
- Sensitization:** No test data available.
None of the substances in this mixture is classified as a sensitizer according to OSHA Hazard Communication Standard 29 CFR 1910.1200 or EU Directive 67/548/EEC.
- Chronic Toxicity:**
No test data available
None of the substances in this mixture is classified as very toxic,

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toxic or harmful for chronic effect according to EU Directive 67/548/EEC.

Mutagenicity: Ames test (Salmonella typhimurium, Escherichia coli) negative.
(a similar product)

Carcinogenicity:

No test data available

None of the substances in this mixture is classified for carcinogenicity according to EU Directive 67/548/EEC.

Carbon black is listed by IARC as a group 2B (possibly Carcinogenic), but IARC monographs vol. 65 and 93 state that there is inadequate evidence in humans for carcinogenicity of black. Inhalation test of a toner for two years* showed no significant carcinogenicity. In addition IARC monograph vol. 93 states that no significant exposure to carbon black is thought to occur during the use of products in which carbon black is bound to other materials, such as rubber printing ink or paint. Carbon black in this mixture is in a bound form.

* Negative Effect of Long-term Inhalation of Toner on Formation Of 8-hydroxydeoxyguanosine in DNA in the lungs of Rats in Vivo

Reproductive toxicity:

No test data available.

None of the substances in this mixture is classified for reproductive toxicity according to EU Directive 67/548/EEC.

12. ECOLOGICAL INFORMATION

According to our test results or this or similar mixture and the information provided by the suppliers about the substances contained in this mixture, this mixture is not expected to be harmful to ecology.

Ecotoxicity:

No data available

Mobility

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Results of PBT assessment

Not applicable

Other adverse effects

None known

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13. DISPOSAL CONSIDERATIONS

This mixture may be landfilled or incinerated in compliance with all Federal/state/local provisions.

Do not dump this product into sewers, on the ground, or into any body of water.

14. TRANSPORTATION INFORMATION

International Transport Information

Not a regulated material under the United State DOT, IMDG, ADR, RID, or ICAO/IATA.

15. REGULATORY INFORMATION

TSCA: All the substances in this mixture is listed or exempted in accordance with TSCA.

CERCLA Reportable Quantity (40 CFR 117,302):

Not applicable to this mixture.

SARA Title III

Section 302 (40 CFR 355):

Not applicable to this mixture.

Section 311/312 (40 CFR 370):

Carbon black

Immediate health hazard: No

Chronic health of pressure hazard: No

Sudden release of pressure hazard: No

Reactive hazard: No

Section 313 (40 CFR 372):

Not applicable to this mixture.

Please refer to any other Federal/state/local measures that may be relevant.

16. OTHER INFORMATION

This information is believed to be true and accurate. It represents the best information currently available to us. We make no warranty, Expressed or implied with regard to such information. We make no liability resulting from its use. Users should make their own investigations to determine the suitability for their particular purposes.

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Abbreviations

ACGIH

ADR

CAS

American Conference of Governmental Industrial Hygienists
Accord européen relatif au transport international des
marchandises Dangereuses par Route (The European
agreement on cross-border transportation of dangerous
goods by road).

Chemical Abstracts Service

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CERCLA	Comprehensive Environmental Response Compensation and Liability Act.
CFR	Code of Federal Regulations
DOT	Department of Transportation
EINCES	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
EU	European Union
IARC	International Agency of Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Medical Guide of Ships
LD50	Lethal Dose, 50% kill
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PELs	Permissible Exposure Limits
RID	Règlement International concernant le transport des marchandises Dangereuses par chemin de fer (the International regulations covering transportation of dangerous goods by rail)
SARA	Superfund Amendments and Reauthorization Act of 1986
TSCA	Toxic Substances Control Act
TLV	Threshold Limit Value
TWA	Time Weighted Average