SAFETY DATA SHEET

Version 3 Issue Date Apr. 4th, 2020

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1. Chemical Product and Company Identification

1.1 Product name:	HB-Masterbatches-**
1.2 Type of product:	**= (01) Carbon Nanotubes Polyethylene Masterbatch, ** =(02) Carbon Nanotubes Polypropylene Masterbatch, ** =(03) Carbon Nanotubes Polycarbonate Masterbatch, ** =(04) Carbon Nanotubes Polyvinyl chloride Masterbatch, ** =(05) Carbon Nanotubes polyamides Masterbatch, ** =(06) Carbon Nanotubes Acrylonitrile-Styrene Masterbatch, ** =(07) Carbon Nanotubes polystyrene Masterbatch, ** =(08) Carbon Nanotubes polyurethane Masterbatch, Respectively.
1.3 Recommended Use:	For ESD and anti-static plastics
1.4 Supplier's detail:	Company: Heebut Materials LLC Address: 19125 North Creek Parkway, suite 116 Bothell, WA 98011 Telephone: 206 898 9477

2. Hazards Identification

2.1 Health Hazards

Acute toxicity (Oral):	Not classified
Acute toxicity (Dermal):	Classification not possible
Acute toxicity (Inhalation):	Classification not possible
Skin corrosion / irritation:	Classification not possible
Serious eye damage / eye irritation:	Classification not possible
Respiratory sensitization:	Classification not possible
Skin sensitization:	Classification not possible
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
Aspiration hazards:	Not classified

2.2 Environmental Hazards

Aquatic environmental hazards:	Not classified
Chronic environmental hazards:	Not classified

2.3 Other hazards

This product may release small amount of volatile gases which may cause irritation to eyes, nose and throat. Use adequate local exhaust ventilation during drying and molding of the product.
Sweep up and dispose any spilled product to eliminate slipping hazards.

Do not pile up the product too high to avoid any injuries caused by falling of the product.

3. Composition / Information on Ingredients

Substance/Mixture:	Mixture
Chemical Name:	Mixture of NWCNTs and Polyethylene and Additives
Synonyms:	Carbon Nanotubes Polyethylene Masterbatch

Components	CAS No.	wt%
Plastic resins	various	74~86 %
Multi-walled carbon nanotubes	confidential	14~26 %
Additives		<1.0 %

4. First-Aid Measures

4.1 Inhalation

It is not likely for the pellets to be inhaled. In case of inhalation of gases and fumes from melting resin, remove casualty to fresh air. If the casualty has difficulties in breathing or coughing, seek medical assistance immediately.

4.2 Skin contact

Wash skin thoroughly with water and mild soap. In case of contact with melting resin, cool rapidly with water and seek medical assistance immediately. In case of contact with fume condensate from melting resin, wash thoroughly the affected area with water and soap. Seek medical assistance immediately if irritation develops.

4.3 Eye contact

Gently rinse the affected eyes with clean water for at least 15 minutes. If the casualty wears contact lenses, have them removed and continue rinsing. Avoid the casualty from rubbing eyes. Transport casualty to the nearest medical facilities for treatment as soon as possible.

4.4 Ingestion

No specific measures must be taken if the product is swallowed. In case of accident or if you feel unwell, seek medical advice immediately.

5. Fire-Fighting Measures

5.1 Extinguishing media

In case of fire, use water mist, foam, dry powder, or carbon dioxide.

5.2 Specific hazards under fire

In case of fire and / or explosion, do not breathe in fumes.

Toxic gases such as carbon monoxide, carbon dioxide, nitrogen oxides will form upon combustion of this product. Fires involving this material may produce large amounts of sooty smoke.

5.3 Specific fire-fighting measures

Apply water from a safe distance to cool and protect surrounding area. Move container from fire areas if it can be done without risk. Keep personnel removed from and upwind of fire. Evacuate non-essential personnel to safe area.

5.4 Protection of fire fighters

Fire fighters should wear proper protective equipment.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment, and emergency procedures

Sweep up spilled resin pellets on road or floor to avoid slipping.

6.2 Measures for environmental effects

Do not flush into sewer or drain.

6.3 Methods and materials for containment and cleaning up

Sweep up, place in bag, and hold for waste disposal.

6.4 Preventive measures for secondary accident

Shut off all sources of ignition. No flares, smoking or flames in area.

7. Handling and Storage

7.1 Handling

When using do not smoke, do not breathe dust, Do not breathe gas/fumes. Use adequate local ventilation to remove fumes generated from molten resin during processing with molding machine or extruder. Use total ventilation with ventilation fans if above work are carried out in a building. Do not empty into drains. Avoid rough handling or dropping. Prevent deposition of dust, because a dust explosion may happen with the presence of static electricity or electric spark.

7.2 Storage

This product is a flammable material. Follow fire defense law and local regulations for storage and handling. Keep the product away from direct sunlight, water leak, moisture, and any source of heat and ignition. Store it in a well-ventilated and Prevent deposition of dust.

8. Exposure Control/Personal Protection

8.1 Engineering measures

Use adequate local ventilation to remove fumes generated during processing of the resin and to maintain comfortable work environment. Wash hands before break time and after work. Do not eat, drink or smoke during when handling this product.

8.2 Adopted value

Not provided.

8.3 Personal protective equipment

Respiratory protection:	Wear respirator for organic gases to avoid inhalation.
Hand protection:	It is desirable to wear protection gloves to avoid direct contact of skin with the resin. Wear heat resistant protection gloves during handling of melting polymer or high temperature polymer.
Eye protection:	Wear protective eye glasses with side shields or chemical safety goggles.
Skin and body protection:	It is desirable to wear long sleeve clothing so as not to touch skin directly. Wear protection clothing of heat-resistance when handling melting polymer.

9. Physical and Chemical Properties

Appearance:	Granules shaped solid
Color:	Black
Odor:	None
pH:	N/A
Vapor pressure:	N/A
Melting point:	60~160℃
Boiling point:	N/A
Decomposition temperature:	N/A
Flash point:	N/A
Ignition temperature:	＞320℃
Solubility:	Insoluble in water
Danger of explosion:	Not explosive

10. Stability and Reactivity

10.1 Stability

This product is considered a stable material under normal and anticipated storage and handling conditions.

10.2 Possibility of hazardous reactions

This product is considered a stable material under normal and anticipated storage and handling conditions.

10.3 Conditions to avoid

Direct sunlight, fire, sources of heat etc.

10.4 Materials to avoid

Strong oxidizing and reducing agents. Strong acids and strong bases.

10.5 Decomposition products

Black smoke, carbon monoxide, carbon dioxide, nitrogen oxides maybe generated in the case combustion of this product.

11. Toxicological Information

Acute toxicity:	Not classified
Skin corrosion/irritation:	Classification not possible
Serious eye damage/eye irritation:	Classification not possible
Respiratory or skin sensitization:	Classification not possible
Germ cell mutagenicity:	Not classified
Carcinogenic effects:	Not classified
Toxicity for reproduction:	Not classified
Aspiration hazards:	Classification not possible

12. Ecological Information

Ecological toxicity:	Classification not possible
Biodegradability:	Classification not possible.
Bioaccumulation:	Classification not possible.
Mobility in soil:	Classification not possible.

Other adverse effects：

Hazardous to the aquatic environment (Acute)：	Not classified
Hazardous to the aquatic environment (Chronic)：	Not classified

13. Disposal Consideration

Dump the waste matters following law, rules, and regulations.

14. Transport Information

Transport in accordance with national and international guidelines.

15. Regulatory Information

None.

16. Other Information / References

The information relates to this specific material. It may not be valid for this material, if used in combination with any other materials or in any process. It is the user's responsibility to satisfy himself as to the suitability and completeness of this information for his own particular use. The information herein is given in good faith, but no warranty, express or implied, is made. we assume any liability whatsoever for the accuracy or completeness of the information contained herein. Although certain hazards are described herein; we cannot guarantee that these are the only hazards which exist. All materials may present unknown hazards and should be used in caution.