

6002 – 15% Highly Filled Carbon Nanotube Polycarbonate Masterbatch

SECTION 1: Identification**1.1 Product identifier**

Product name 6002 – 15% Highly Filled Carbon Nanotube Polycarbonate Masterbatch
Product number PR00551
Brand Interfacial Consultants, LLC

1.2 Other means of identification

6002; 15% Highly Filled Carbon Nanotube Polycarbonate Masterbatch; PR00551

1.3 Recommended use of the chemical and restrictions on use

Thermoplastic resin to be extruded or molded.

1.4 Supplier's details

Name Interfacial Consultants, LLC
Address N4660 1165th St.
Prescott, WI 54021
United States

Telephone 715-781-0305
Fax n/a
email info@ifllc.com

1.5 Emergency phone number(s)

715-781-0305

SECTION 2: Hazard identification**2.1 Classification of the substance or mixture**

- Eye damage/irritation (chapter 3.3), Cat. 2A

2.2 GHS label elements, including precautionary statements**Pictogram****Signal word**

Warning

Hazard statement(s)

(CAN)
H319
H335

May form combustible dust concentrations in air
Causes serious eye irritation
May cause respiratory irritation

Precautionary statement(s)

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

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P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash ... thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P501	Dispose of contents/container to incinerator

2.3 Other hazards which do not result in classification

Components of this material may aggravate those with pre-existing eye, skin, or respiratory conditions. Polymeric materials generally do not pose a health hazard unless heated to decomposition. Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. All ingredients are tightly bound in a polymeric matrix that has a negligible vapor pressure so there is a low potential for inhalation or ingestion of ingredients. Due to processing, dermal contact may be possible. Avoid dust inhalation.

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Hazardous components****1. Multi Walled Carbon Nanotube**

Concentration	13 - 17 % (Weight)
CAS no.	7782-42-5

- P261
- P501

H319	Causes serious eye irritation
H335	May cause respiratory irritation

SECTION 4: First-aid measures**4.1 Description of necessary first-aid measures**

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Remove dusty or contaminated clothing. Wash off with soap and plenty of water.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Avoid creating and exposure to dust.

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Eye/skin contact with hot or molten material may cause severe injury, including possible blindness/thermal burns. Ingestion may produce mild gastrointestinal irritation and disturbances. Thermal processing fumes may cause irritation, pulmonary edema and a possible asthma-like response.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No data available

SECTION 5: Fire-fighting measures**5.1 Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Avoid high pressure, direct water stream that may spread molten or burning resins.

5.2 Specific hazards arising from the chemical

Upon heating, this material may emit various oligomers, waxes and oxygenated hydrocarbons as well as carbon dioxide, carbon monoxide, and small amounts of other organics vapors. Inhalation of these decomposition products may be hazardous.

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing creating or exposure to dust, especially inhalation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Prevent further spillage if safe to do so. Discharge into the environment should be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spill. Prevent entry into sewers and drains, underground or confined spaces, water intakes and waterways. Spilled product may create a slipping hazard. Use appropriate tool to put the spilled solid in an appropriate disposal or recovery container. Reuse or recycle where possible.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Handle in contained and properly designated systems. Use adequate dust mitigation and ventilation. Avoid inhalation. Keep away from uncontrolled heat and incompatible materials.

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible or hazardous respirable dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place (ideally a designated storage area), away from uncontrolled heat sources and incompatible materials.

Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****1. Multi Walled Carbon Nanotube**

TWA (Inhalation): 10 mg/m³ (inhalable particles), 3 mg/m³ (respirable fraction) (ACGIH)

PEL (Inhalation): 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction) (OSHA)

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection

Wear protective clothing (such as long-sleeved shirts and long pants) whenever molten material is present. Safety footwear with good traction is recommended to help prevent slipping

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Appearance/form	Solid, pellet, black
Odor	None
Odor threshold	No data available.
pH	No data available.

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Melting point/freezing point	160-200 °C (analogous material)
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	Not flammable
Upper/lower flammability limits	No data available.
Upper/lower explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	No data available.
Solubility(ies)	Insoluble in water
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	Varies; 380 °C (analogous material)
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

Other safety information

No data available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

None under normal use conditions.

10.2 Chemical stability

Stable under recommended storage conditions. This product is stable under normal use conditions for shock, vibration, pressure, and temperature.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Heat, flames and sparks. Avoid strong oxidizing agents. Avoid processing material >380 °C. Avoid dust formation.

10.5 Incompatible materials

May react with strong oxidizing agents. Organic solvents, ether, gasoline, lubricating oils, chlorinated hydrocarbons and aromatic hydrocarbons may react with and degrade this product. Powders or dusts may form an explosive mixture with air. Risk of dust-air explosion is increased if flammable vapors are also present.

10.6 Hazardous decomposition products

Other decomposition products - No data available. In the event of fire: see section 5

SECTION 11: Toxicological information**Information on toxicological effects****Acute toxicity**

No data available.

Skin corrosion/irritation

No data available.

6002 – 15% Highly Filled Carbon Nanotube Polycarbonate Masterbatch**Serious eye damage/irritation**

No data available.

Respiratory or skin sensitization

Respirable dust of this material may present an inhalation hazard.

Germ cell mutagenicity

No data available.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated.

SECTION 12: Ecological information**Toxicity**

No data available.

Persistence and degradability

Product is not expected to readily degrade in aquatic or terrestrial environments.

Bioaccumulative potential

Pellets may accumulate in the digestive systems of birds and aquatic life, causing injury and possible death due to starvation.

Mobility in soil

If released to the aquatic environment, this material is anticipated to not readily degrade. Product should be recovered water and land following spills. This product is not anticipated to be mobile in the terrestrial environment.

Results of PBT and vPvB assessment

Product is not expected to readily degrade in aquatic or terrestrial environments, is not anticipated to bioaccumulate, and is not toxic.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal of the product

Offer surplus and non-recyclable pellets/material to a licensed disposal company for incineration.

Disposal of contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Stockholm Convention

No listed components

Toxic Substances Control Act (TSCA) Inventory

Carbon nanotubes: although no environmental tests were conducted, similar substances have been found harmful to the environment if released to water. Product is accordingly subject to regulation under TSCA, and may not be released to waters.

15.2 Chemical Safety Assessment

This material is non-reactive, chemically stable, and inert under recommended storage and use conditions. This material may be melted upon heating and thermal hazards may be associated with the molten material. Whole product human and ecological impacts of this material have not been tested, any classifications made have been based entirely on individual components.

HMIS Rating

Health	1
Flammability	1
Physical hazard	0
Personal protection	B

NFPA Rating

Health hazard	1
Fire hazard	1
Reactivity hazard	0
Special hazard	

SECTION 16: Other information

16.1 Further information/disclaimer

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