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Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**GHS product identifier****Product Name** Pb3100N**Other means of identification****Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** Additive into the following products:
Energy storage devices (i.e., batteries, capacitors)
Rubber components (seals, etc.)**Uses advised against** This product contains a chemical that is regulated by TSCA Section 5(e) Consent Order and a SNUR at 40CFR721.10663. See Section 15 for additional information.**Supplier's details****Supplier Address**
Black Diamond Structures
12310 Trail Driver
Austin, Texas 78737
TEL: 512-900-3824**Manufacturer Address**
Molecular Rebar Design
13477 Fitzhugh Rd
Austin, TX 78736
TEL: 512-394-0922**Emergency telephone number****Emergency Telephone Number** 512-394-0922**2. HAZARDS IDENTIFICATION****Classification**

This chemical is not considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

GHS Label elements, including precautionary statements**Emergency Overview****Signal Word****Warning**

This product contains nanoparticles. Nanoparticles are particles which are <100 nanometers. Nanoparticles may or may not exhibit size-related properties that differ significantly from the properties of the bulk material. These size-related properties may affect absorption, inhalation, and toxicity of the material in animals, humans, and aquatic life.

Appearance Black.**Physical State** Liquid.**Odor** Odorless.**Precautionary Statements**

Prevention

- None

General Advice

- None

Storage

- None

Disposal

- None

Hazard Not Otherwise Classified (HNOC)

There is limited information on inhalation of aqueous suspensions of carbon nanotubes. Fine mists may contain inhalable respirable carbon nanotubes.

Other information

5% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Molecular rebar	-	1-5	*

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

4. FIRST AID MEASURES

Description of necessary first-aid measures

General Advice	Show this safety data sheet to the doctor in attendance.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician or Poison Control Center immediately.
Skin Contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or Poison Control Center immediately. Wash contaminated clothing before reuse.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician or Poison Control Center immediately.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects No information available.

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

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media None

Specific Hazards Arising from the Chemical

Non-combustible

Explosion Data**Sensitivity to Mechanical Impact**

None.

Sensitivity to Static Discharge

None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

Environmental Precautions**Environmental Precautions**

Do not allow material to contaminate ground water system. Prevent product from entering drains. See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up**Methods for Containment**

Dike far ahead of liquid spill for later disposal.

Methods for Cleaning Up

Dam up. Soak up with inert absorbent material. Use personal protective equipment. Clean up promptly using a HEPA-filtered vacuum.

7. HANDLING AND STORAGE**Precautions for safe handling****Handling**

Prevent formation of aerosols or mists. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Use only in area provided with appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities**Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products

Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Little is known about the occupational exposure to nanoparticles which means that regulatory bodies have not identified any exposure guidelines. Refer to "Approaches to Safe Nanotechnology" by the National Institute Occupational Safety and Health (NIOSH) for hazard assessment and risk management techniques.

Other Exposure Guidelines

NIOSH proposes a recommended exposure limit (REL) of 1 ug/m³ elemental carbon as an 8 hr. Time Weighted Average respirable mass airborne concentrations for carbon nanotubes.

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles.
Skin and Body Protection Long sleeved clothing. Chemical resistant gloves.
Respiratory Protection Use type P95 (US) or type P1 (EU EN 143) particulate respirator.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid.	Appearance	Black.
Odor	Odorless.	Odor Threshold	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
pH	4 - 7	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	100 °C	None known
Flash Point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	~ 1g/cm ³	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties Not flammable

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%) No data available

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Do not allow to dry.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined
Inhalation	May be harmful if inhaled. There is limited information on inhalation of aqueous suspensions of carbon nanotubes. Fine mists may contain inhalable respirable carbon nanotubes. Evidence from animal studies indicate inhaled nanoparticles may deposit deep in lung tissues possible interfering with lung function.
Eye Contact	May cause irritation.
Skin Contact	May cause irritation. May be harmful in contact with skin.
Ingestion	May be harmful if swallowed.
Component Information	No information available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenicity Contains no ingredients above reportable quantities listed as a carcinogen.

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product

Acute Toxicity 5% of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Persistence and Degradability No information available.

Bioaccumulation No information available.

Other Adverse Effects
 No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

MEX Not regulated

15. REGULATORY INFORMATION

Molecular Rebar® is subject to SNUR regulations as per 40CFR721.10663.

International Inventories

TSCA Complies
DSL Not determined

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION					
<u>NFPA</u>	Health Hazard	0	Flammability	0	Instability 0 Physical and Chemical Hazards - Personal Protection X
<u>HMIS</u>	Health Hazard	0	Flammability	0	

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General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet