XFNANO 99.5% Fullerene C60 Powder Carbon 60 1gram

Fullerene C60 Powder Instruction Manual

Model: 99.5% Fullerene C60 Powder Carbon 60 1gram
Brand: XFNANO

1. Introduction

This manual provides essential information for the safe and effective handling of XFNANO 99.5% Fullerene C60 Powder. Fullerene C60, also known as Buckminsterfullerene, is a spherical carbon molecule with 60 carbon atoms arranged in a structure resembling a soccer ball. It is widely used in various scientific research and industrial applications due to its unique physical and chemical properties.
This product is supplied as a dark brown to black powder in a sterile clear glass bottle, intended for industrial and research-grade applications only. It is crucial to understand and adhere to all safety guidelines and handling procedures outlined in this document.

2. Safety Information

WARNING: This product is for **Industrial/Research Grade** use only. **Not for human or animal consumption.**

2.1 General Precautions

- Always handle in a well-ventilated area or under a fume hood.
- Wear appropriate Personal Protective Equipment (PPE), including safety glasses, laboratory coat, and chemical-resistant gloves (e.g., nitrile).
- Avoid inhalation of dust. Use a respirator if dust generation is unavoidable.
- Avoid contact with skin and eyes. In case of contact, rinse immediately with plenty of water and seek medical advice.
- Do not ingest. If swallowed, seek immediate medical attention.
- Keep container tightly closed when not in use.
- Store in a cool, dry place away from incompatible materials.

2.2 Emergency Procedures

- **Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- **Skin Contact:** Wash off with soap and plenty of water. Consult a physician.
- **Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
- **Fire:** Use water spray, dry chemical, carbon dioxide, or appropriate foam.

- **Spills:** Sweep up and shovel. Keep in suitable, closed containers for disposal. Avoid dust formation.

3. Setup and Preparation

Before handling Fullerene C60 powder, ensure your workspace is properly prepared to minimize risks and ensure accurate results.

1. **Workspace:** Set up a clean, dry, and well-ventilated area, preferably a laboratory with a fume hood.
2. **Personal Protective Equipment (PPE):** Don safety glasses, a lab coat, and chemical-resistant gloves. Consider a dust mask or respirator if working with larger quantities or in less ventilated spaces.
3. **Tools and Equipment:** Gather all necessary tools such as spatulas, weighing scales, beakers, solvents (if preparing solutions), and appropriate storage containers. Ensure all equipment is clean and dry.
4. **Waste Disposal:** Prepare a designated container for chemical waste disposal according to local regulations.

Figure 3.1: XFNANO Fullerene C60 powder in its original glass vial packaging.

Figure 3.2: A clear glass vial, illustrating the type of container used for the Fullerene C60 powder.

4. Operating Instructions

Follow these steps for safe and effective handling of Fullerene C60 powder.

1. **Opening the Vial:** Carefully uncap the glass vial. Avoid sudden movements that could disperse the powder.
2. **Dispensing:** Use a clean, dry spatula to carefully transfer the desired amount of powder. For precise measurements, use a laboratory weighing scale.
3. **Handling Powder:** Fullerene C60 powder is fine and can become airborne. Work slowly and deliberately to prevent dust clouds.
4. **Preparing Solutions (Optional):** If preparing a solution, add the powder to the appropriate solvent (e.g., toluene, carbon disulfide) in a suitable container. Stir or sonicate as required for dissolution.
5. **Closing the Vial:** After dispensing, immediately recap the vial tightly to prevent contamination and moisture absorption.

Figure 4.1: Top view of Fullerene C60 powder within its vial, showing its dark appearance.

Figure 4.2: A small quantity of Fullerene C60 powder, demonstrating its typical appearance.

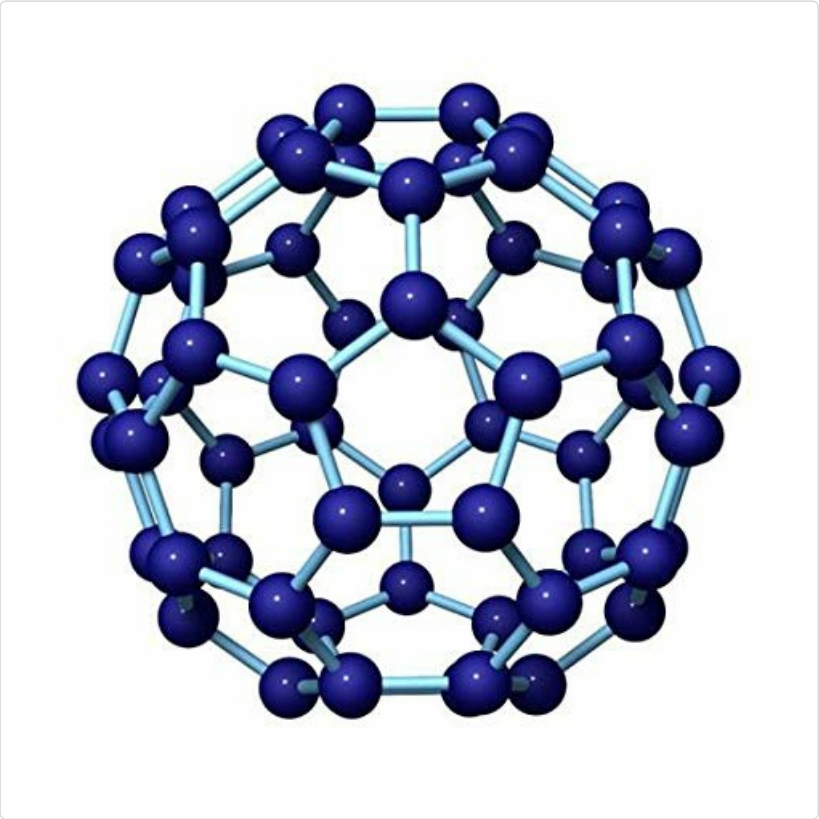

Figure 4.3: Molecular structure of Fullerene C60, a spherical carbon molecule.

4.1 Product Overview Video

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Video 4.1: An overview of XFNANO Fullerene C60 and C70 products, demonstrating packaging and powder handling. This video shows various vials of Fullerene C60 and C70, and a gloved hand carefully pouring powder from a vial onto a white surface.

5. Maintenance and Storage

Proper storage is essential to maintain the purity and integrity of Fullerene C60 powder.

- **Storage Conditions:** Store the product in its original, tightly sealed glass vial. Keep in a cool, dry place, away from direct sunlight and sources of heat.
- **Temperature:** Room temperature storage is generally suitable, but refer to specific product data sheets for optimal conditions if available.
- **Humidity:** Protect from moisture, as it can affect powder properties.
- **Incompatible Materials:** Store away from strong oxidizing agents, strong acids, and strong bases.
- **Container Integrity:** Regularly inspect the vial for any signs of damage or compromise to the seal.

6. Troubleshooting

This section addresses common issues that may arise during the handling and storage of Fullerene C60 powder.

6.1 Powder Clumping or Moisture Absorption

- **Issue:** Powder appears clumpy or sticky, indicating moisture absorption.
- **Solution:** Ensure the vial is always tightly sealed after use. Store in a low-humidity environment. If clumping is minor, gentle agitation may help. For significant moisture absorption, the purity may be compromised, and the product might not be suitable for sensitive applications.

6.2 Spillage

- **Issue:** Accidental spillage of powder.
- **Solution:** Wear appropriate PPE. Carefully sweep up the spilled powder using a brush and dustpan. Avoid creating dust. Transfer to a designated waste container. Clean the affected area thoroughly with a damp cloth. Do not use a vacuum cleaner unless it is equipped with a HEPA filter suitable for fine powders.

6.3 Contamination

- **Issue:** Suspected contamination of the powder.
- **Solution:** If contamination is suspected, do not use the product for critical applications. Isolate the contaminated batch and dispose of it according to chemical waste protocols. Always use clean tools and work in a clean environment to prevent contamination.

7. Specifications

Attribute	Value
Product Name	Fullerene C60 Powder
Appearance	Dark brown to black powder
Purity	99.5%
Test Report	HPLC Report
Packaging	Sterile Clear Glass Bottle (1 gram)
Item Form	Powder

Attribute	Value
Grade	Industrial/Research Grade
Manufacturer	JiangSu XFNANO Materials Tech Co.,Ltd
Date First Available	March 28, 2019

Note: XFNANO also provides 99.9% C60 and 99.95% C60, as well as C70 Powder.

8. Warranty and Support

8.1 Return Policy

This product is subject to a 30-day return policy for refund or replacement, as per the seller's terms and conditions. Please refer to your purchase platform for detailed return instructions.

8.2 Technical Support and Inquiries

For technical assistance, product inquiries, or any other support needs, please contact the manufacturer directly:

Manufacturer: JiangSu XFNANO Materials Tech Co.,Ltd

Telephone: +86 400-025-3200

Email: sale@xfnano.com

When contacting support, please provide your product model (Fullerene C60 Powder) and any relevant purchase details to facilitate a quicker resolution.