

SECTION 1: PRODUCT & COMPANY IDENTIFICATION

1.1 Product Identifiers

Product Name: NANOMYTE® BE-1000E

Product Description: Carbon Monofluoride (CF_x) electrode sheet

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Uses: Laboratory chemicals; Synthesis of substances; Research & development

1.3 Details of the Supplier of the Safety Data Sheet

Company: [NEI Corporation](#)

Address: 400 Appgar Drive, Unit E – Somerset, NJ 08873 – USA

Phone: +1 (732) 868-3141 Fax: +1 (732) 868-3143

Email: productinfo@neicorporation.com

1.4 Emergency Telephone Number

Manufacturer: +1 (732) 868-3142 (9am to 6pm EST / UTC -0500)

U.S. Poison Control Center: +1 (800) 222-1222

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Not Classified. This product is defined as an "Article" under the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the REACH Regulation (EC) No. 1907/2006. In its manufactured and shipped form, it does not pose a physical hazard or health risk to humans or the environment.

2.2 Label Elements

None required.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

In the manufactured form (coated sheet), these components are bound within a polymer matrix and are not bio-available. However, any process that destroys this matrix (e.g., shredding, grinding, or burning) may release respirable dust, such as carbon black, which is a suspected carcinogen.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Component Name	Synonyms	Formula	CAS #	Coating Wt %
Carbon Monofluoride	Carbon fluoride	CF _x	51311-17-2	80%
Raw Form Hazards: Skin irritation (Category 2, H315); Eye irritation (Category 2A, H319); Specific target organ toxicity - single exposure (Category 3, Respiratory system, H335) Sheet Form Hazards: None (bound)				
Carbon Black	Carbon, C	C	1333-86-4	15%
Raw Form Hazards: Carcinogenicity (Cat. 2, H351) Sheet Form Hazards: None (bound)				
Poly(vinylidene fluoride)	PVDF	(C ₂ H ₂ F ₂) _x	24937-79-9	5%
Hazards: Not classified				
Aluminum Foil Sheet	Aluminium	Al	7429-90-5	(substrate)
Hazards: Not classified				

NOTE: This product is a solid, multi-layered article. Components are fully encapsulated within a dried polymer matrix. In this manufactured state, the ingredients are not respirable. The product does not meet the criteria for classification as a hazardous substance under GHS/OSHA/REACH. Hazards listed for individual components apply only to the release of dust or fumes through mechanical grinding, high-heat thermal decomposition, or chemical dissolution. *See Section 16

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice:

Move out of exposed area. Seek medical attention if irritation occurs. Show this SDS to the doctor in attendance.

NANOMYTE® BE-1000E – CF_x electrode sheet

Inhalation (dust only):

Inhalation is not a likely route of exposure for the intact sheet. If dust is generated from cutting or grinding and inhalation occurs, move the person to fresh air. If breathing is difficult, seek medical attention.

Skin Contact:

If irritation occurs from contact with coating, wash the affected area with soap and water.

Eye Contact:

Flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids. If dust particles are present, do not rub eyes, as the grit may cause corneal abrasion. Seek medical attention if irritation persists.

Ingestion:

Not a likely route of exposure for a solid sheet. If pieces are swallowed, do not induce vomiting unless directed by medical personnel. Seek medical advice.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Dust: Irritation of eyes, skin, and respiratory tract.

Thermal Decomposition: Inhalation of (Hydrogen Fluoride) can cause severe respiratory tract irritation, pulmonary edema, and fluoride poisoning. **Symptoms may be delayed by several hours.**

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. If the product has been exposed to temperatures above 200°C, be alert for signs of Hydrogen Fluoride (HF) poisoning. HF can cause hypocalcemia; monitor calcium levels if significant inhalation of smoke occurred.

SECTION 5: FIREFIGHTING MEASURES

5.1 Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

5.2 Hazardous Combustion Products

Material decomposes above 200°C. Hydrogen Fluoride (HF), Carbonyl Fluoride, and Carbon Oxides

5.3 Advice for Firefighters

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

5.4 Other Information

HF gas is toxic and corrosive; avoid skin contact and inhalation. Prevent firefighting runoff from entering drains or watercourses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains or waterways.

6.3 Methods and Materials for Containment and Cleaning Up

Pick up and arrange disposal without creating dust. Keep in closed containers for disposal.

6.4 Reference to Other Sections

For personal protection, see section 8; for disposal see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Appropriate personal protective equipment should be used at all times. Avoid contact with eyes and skin. Handle in a dry and well-ventilated area. Avoid actions that abrade, sand, or grind the coated surface. Such actions can release respirable dust. Even though the material is bound, trace surface dust may be present. Wash hands thoroughly after handling electrode materials, even if gloves were worn. Do not eat, drink, or smoke in areas where electrodes are handled or processed. See Section 2.2 for precautions.

7.2 Conditions for Safe Storage (including any incompatibilities)

Store in a dry and well-ventilated place. Keep away from heat, sparks, open flames, and temperatures exceeding 200°C. Protect from moisture and direct sunlight. Store sheets flat to prevent flaking or delamination of the coating from the foil.

7.3 Specific End Uses

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Components with workplace control parameters:

Component	OSHA PEL (TWA)	ACGIH TLV (TWA)	NIOSH REL (TWA)
Carbon Black	3.5 mg/m ³	3 mg/m ³ (inhalable)	3.5 mg/m ³

8.2 Exposure Controls

Appropriate Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. **Processing (Cutting/Slitting):** If generating dust, use a HEPA-filtered fume hood or local exhaust ventilation (LEV). Because the dust is conductive, ensure that the vacuum/exhaust system is rated for conductive dust to prevent motor fires.

Personal Protective Equipment

Respiratory Protection

Not required for normal handling of electrode sheets. If the sheets are damaged or dust is created outside of a fume hood, use an N95 or P100 respirator.

Eye / Face Protection

Safety glasses with side shields are recommended when cutting sheets or if dust is present.

Hand 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. Wear long sleeves to prevent conductive dust from settling on the skin. Wash and dry hands.

Recommendation: Nitrile rubber (minimum 4 mil thickness)

Recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use. It should not be construed as offering an approval for any specific use scenario.

Skin and Body Protection

A standard lab coat is recommended. Contaminated clothing should be laundered separately.

Control of Environmental Exposure

Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical State:	Solid coating on foil
Color:	Black
Odor:	No Data Available
Odor Threshold:	No Data Available
pH:	No Data Available
Melting Point / Range:	No Data Available
Boiling Point / Range:	No Data Available
Flash Point:	No Data Available
Evaporation Rate:	No Data Available
Flammability:	No Data Available
Upper Explosion Limit:	No Data Available

Lower Explosion Limit: No Data Available
Vapor Pressure: No Data Available
Vapor Density: No Data Available
Relative Density: No Data Available
Water Solubility: Insoluble in water
Partition Coefficient: No Data Available
Auto-ignition Temperature: No Data Available
Decomposition Temperature: > 200 °C (coating begins releasing fluorides)
Viscosity: No Data Available

9.2 Other Safety Information

No Data Available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended storage and handling conditions. Not self-reactive.

10.2 Chemical Stability

Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of Hazardous Reactions

No Data Available

10.4 Conditions to Avoid

Avoid excessive heat (> 200 °C / 392 °F), open flames, sparks, mechanical abrasion (generates respirable dust)

10.5 Incompatible Materials

Strong oxidizing agents, strong acids, strong bases, and alkali metals (e.g., Lithium, Sodium).

10.6 Hazardous Decomposition Products

Under fire conditions or extreme thermal duress, the following may be released:
Hydrogen Fluoride (HF), Carbonyl Fluoride, and Carbon Oxides

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute Toxicity

Not classified for the electrode sheet. If dust is generated, it may cause irritation to the upper respiratory tract.

Skin corrosion/irritation

May cause irritation

Serious eye damage/eye irritation

Dust may cause irritation

Respiratory or skin sensitization

Not classified as a sensitizer based on current data for these components

Germ cell mutagenicity

No evidence of mutagenic effects for the mixture

Carcinogenicity

Carbon Black: Classified by IARC as Group 2B (Possibly carcinogenic to humans) via inhalation.

Note: *These risks are associated with the inhalation of respirable particles, which are not present in the finished sheet.*

Reproductive toxicity

No known reproductive toxins are present in this formulation at > 0.1%

Teratogenicity

No Data Available

Specific target organ toxicity - single exposure (Globally Harmonized System)

Inhalation of dust may cause respiratory tract irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

Prolonged or repeated inhalation of dust may lead to chronic respiratory issues (from carbon black).

Aspiration hazard

Not applicable

Additional Information

Routes of exposure: Inhalation (as dust), Skin Contact (direct contact), Eye Contact (as dust)

Under normal conditions of use & handling, physical hazards and health risks are not applicable due to physical form of the product. **Note:** Mechanical processing such as grinding, sanding, or laser cutting of the dry coating may generate respirable dust. In such cases, the hazards of the raw constituents may apply.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Component	Algae	Freshwater Fish	Water Flea
Carbon Monofluoride	No data available	No data available	No data available
Carbon Black	EC50: 10,000 mg/l – 72 h [OECD Test Guideline 201]	LC50: 1,000 mg/l – 96 h (zebra fish) [OECD Test Guideline 203]	EC50: 5,600 mg/l – 24 h [OECD Test Guideline 202]
Poly(vinylidene fluoride)	No data available	No data available	No data available

12.2 Persistence and Degradability

No Data Available

12.3 Bioaccumulative Potential

No Data Available

12.4 Mobility in Soil

No Data Available

12.5 Results of PBT and vPvB Assessment

PBT/vPvB assessment not available as chemical safety assessment not conducted

12.6 Other Adverse Effects

No Data Available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods – Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

13.2 Waste Treatment Methods – Contaminated Packaging

Dispose of as unused product, clean residue from packaging (do not allow in drains), & dispose of properly.

SECTION 14: TRANSPORT INFORMATION

14.1 Department of Transportation (DOT - US)

Not classified as a dangerous good under transport regulations

14.2 International Maritime Dangerous Goods (IMDG)

Not classified as a dangerous good under transport regulations

14.3 International Air Transport Association (IATA)

Not classified as a dangerous good under transport regulations

14.4 Other

HS Classification #: 8507.90

Schedule B #: 8507.90.8000

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This mixture does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SARA 311/312 Hazards

Chronic Health Hazard

Right to Know Components

Carbon Monofluoride (CAS #51311-17-2); Poly(vinylidene fluoride) (CAS #24937-79-9); Carbon Black (CAS #1333-86-4)

California Proposition 65

This product contains a chemical known to the State of California to cause cancer: Carbon Black (CAS #1333-86-4)

Toxic Substances Control Act (TSCA) Chemical Substance Inventory

Carbon Monofluoride (CAS #51311-17-2); Poly(vinylidene fluoride) (CAS #24937-79-9); Carbon Black (CAS #1333-86-4)

Note: Generally exempt from TSCA reporting as a manufactured article, but the chemical constituents are fully compliant.

REACH (EU)

All components are registered or exempt. No Substances of Very High Concern (SVHC) are present > 0.1% threshold.

RoHS Compliance

This product does not contain lead, mercury, cadmium, hexavalent chromium, PBB, or PBDE.

15.2 Chemical Safety Assessment

A chemical safety assessment was not carried out for this product.

SECTION 16: OTHER INFORMATION

REACH Number

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

Further Information

NEI has attempted to provide current and accurate information to the best of its knowledge. NEI makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, injury of any kind which may result from or arise out of the use of or reliance on the information by any person. Employers should use this information only as a supplement to other information gathered by them and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

– END OF SDS –