

SAFETY DATA SHEET

Date Printed: 04/18/2024 Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifier: (3N) 99.9% Carbon Black Nanopowder

Product Code: CB-E-03-NP

CAS Number: 1333-86-4

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements 10884 Weyburn Ave. Los Angeles, CA 90024 Tel: +1 310-208-0551 Fax: +1 310-208-0351 Emergency telephone number: +1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture GHS08 Health hazard Carc. 2 H351 Suspected of causing cancer. GHS07 Eye Irrit. 2A H319 Causes serious eye irritation. STOT SE 3 H335 May cause respiratory irritation. GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms



GHS07 GHS08 Signal word Warning Hazard-determining components of labeling: Carbon black Hazard statements H319 Causes serious eye irritation. H351 Suspected of causing cancer. H335 May cause respiratory irritation.

Precautionary statements P262 Do not get in eyes, on skin, or on clothing. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Classification system: NFPA ratings (scale 0 - 4) Health = 1Fire = 0Reactivity = 0HMIS-ratings (scale 0 - 4) Health = *1Fire = 0Reactivity = 0Other hazards Results of PBT and vPvB assessment PBT: N/A vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances CAS # / Substance Name 1333-86-4 Carbon black Identification number(s) EC number: 231-153-3

SECTION 4. FIRST AID MEASURES

Description of first aid measures If inhaled: Supply fresh air; consult doctor in case of complaints. In case of skin contact: Immediately rinse with water. In case of eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor. If swallowed: If symptoms persist consult doctor. Information for doctor: Most important symptoms and effects, both acute and delayed: No data available Indication of any immediate medical attention and special treatment needed No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture No data available Advice for firefighters

Protective equipment: No special measures required.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions: Not required.

Methods and materials for containment and cleanup:

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling:

Precautions for safe handling No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems: No further data; see item 7. Control parameters Components with limit values that require monitoring at the workplace: 1333-86-4 Carbon black

PEL Long-term value: 3.5 mg/m³

REL Long-term value: 3.5* mg/m³ *0.1 in presence of PAHs;See Pocket Guide Apps.A+C

TLV Long-term value: 3* mg/m³ *inhalable fraction Additional information: The lists that were valid during the creation were used as basis. Exposure controls Personal protective equipment: General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes. Avoid contact with the eyes and skin.

Breathing equipment: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air. Protection of hands: Protective gloves The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. Penetration time of glove material The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. Eye protection: Tightly sealed goggles

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties Appearance: Form: Powder Color: Black Odor: Odorless Odor threshold: No data available. pH at 20 °C (68 °F): <7 Melting point/Melting range: 3652-3697 (subl °C (6606-6687 (subl °F) Boiling point/Boiling range: 4200 °C (7592 °F) Flash point: N/A Flammability (solid, gas): Product is not flammable. Ignition temperature: Decomposition temperature: No data available. Autoignition: No data available. Danger of explosion: Product does not present an explosion hazard. **Explosion limits:** Lower: No data available. Upper: No data available. Vapor pressure: 1mm (3586 hPa (1mm (2690 mm Hg) Density at 20 °C (68 °F): bulk 0.21g/ g/cm³ (bulk 1.752g/ lbs/gal) Bulk density at 20 °C (68 °F): 20-200 kg/m³ Relative density No data available. Vapor density N/A Evaporation rate N/A Solubility in / Miscibility with Water: Insoluble.

Partition coefficient (n-octanol/water): No data available. Viscosity: Dynamic: N/A Kinematic: N/A Solvent content: Organic solvents: 0.0 % VOC content: 0.0 g/l / 0.00 lb/gl Solids content: 100.0 % Other information No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity No data available Chemical stability Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications. Possibility of hazardous reactions No dangerous reactions known. Conditions to avoid No data available Incompatible materials: No data available Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects Acute toxicity: LD/LC50 values that are relevant for classification: 1333-86-4 Carbon black Oral LD50 10000 mg/kg (rat) Primary irritant effect: on the skin: No irritant effect. on the eye: Irritating effect. Sensitization: No sensitizing effects known. Additional toxicological information: Carcinogenic categories IARC (International Agency for Research on Cancer) 1333-86-4 Carbon black 2B NTP (National Toxicology Program) Substance is not listed. OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No data available Persistence and degradability No data available Behavior in environmental systems: Bioaccumulative potential No data available Mobility in soil No data available Additional ecological information: Not known to be hazardous to water.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods Recommendation: Must not be disposed of together with household garbage. Do not allow product to enter drains, sewage systems, or other water courses system. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number DOT, ADN, IMDG, IATA not regulated UN proper shipping name DOT, ADN, IMDG, IATA not regulated Transport hazard class(es) DOT, ADN, IMDG, IATA Class not regulated Packing group DOT, IMDG, IATA not regulated Environmental hazards: Marine pollutant: No Special precautions for user N/A Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A UN "Model Regulation": not regulated

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture Sara Section 355 (extremely hazardous substances): Substance is not listed. Section 313 (Specific toxic chemical listings): Substance is not listed. TSCA (Toxic Substances Control Act): Substance is listed. **Proposition 65** Chemicals known to cause cancer: Substance is listed. Chemicals known to cause reproductive toxicity for females: Substance is not listed. Chemicals known to cause reproductive toxicity for males: Substance is not listed. Chemicals known to cause developmental toxicity:

Substance is not listed. Carcinogenic categories EPA (Environmental Protection Agency) Substance is not listed. TLV (Threshold Limit Value established by ACGIH) 1333-86-4 Carbon black A4 NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is listed. GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms GHS07 GHS08 Signal word WarningHazard-determining components of labeling: Carbon black Hazard statements H319 Causes serious eye irritation. H351 Suspected of causing cancer. H335 May cause respiratory irritation. Precautionary statements P262 Do not get in eyes, on skin, or on clothing. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.