

SAFETY DATA SHEET

Date Accessed: 04/25/2024 Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Name: Carbon Black Nanodispersion

Product Number: All applicable American Elements product codes, e.g. C-BLK-01-NPD

CAS #: 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 in accordance with 29 CFR 1910 (OSHA HCS) GHS02 Flame Flam. Liq. 2 H225 Highly flammable liquid and vapor. GHS08 Health hazard Repr. 2 H361 Suspected of damaging fertility or the unborn child. STOT RE 2 H373 May cause damage to the kidneys, the liver, the heart, the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative. Asp. Tox. 1 H304 May be fatal if swallowed and enters airways. GHS07 Skin Irrit. 2 H315 Causes skin irritation. STOT SE 3 H336 May cause drowsiness or dizziness. Hazards not otherwise classified No data available **GHS** label elements GHS label elements, including precautionary statements Hazard pictograms



GHS02 GHS07 GHS08 Signal word Danger Hazard statements H225 Highly flammable liquid and vapor. H315 Causes skin irritation. H361 Suspected of damaging fertility or the unborn child. H336 May cause drowsiness or dizziness. H373 May cause damage to the kidneys, the liver, the heart, the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative. H304 May be fatal if swallowed and enters airways. Precautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P261 Avoid breathing dust/fume/gas/mist/vapors/spray. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. WHMIS classification B2 - Flammable liquid D2A - Very toxic material causing other toxic effects Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 2Flammability = 3 Physical Hazard = 1

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

1333-86-4 Graphitized carbon black EC-No.: 215-609-9

108-88-3 Toluene EC number: 203-625-9

SECTION 4. FIRST AID MEASURES

Description of first aid measures

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

Causes skin irritation.

May cause respiratory irritation.

Suspected of damaging fertility or the unborn child.

May be fatal if swallowed and enters airways.

May cause drowsiness or dizziness.

May cause damage to the kidneys, the liver, the heart, the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative. Indication of any immediate medical attention and special treatment needed No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources Environmental precautions: Do not allow product to enter drains, sewage systems, or other water courses. Methods and materials for containment and cleanup: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation. Prevention of secondary hazards: Keep away from ignition sources. 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 Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture. Keep ignition sources away. Conditions for safe storage, including any incompatibilities Requirements to be met by storerooms and receptacles: Store in a cool location. Information about storage in one common storage facility: Do not store together with acids. Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well-sealed containers. Specific end use(s) No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls Personal protective equipment Follow typical protective and hygienic practices for handling chemicals. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Recommended filter device for short term use: Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU). Protection of hands: Impervious gloves Inspect gloves prior to use. Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer. Material of gloves

Fluorocarbon rubber (Viton) Penetration time of glove material (in minutes) 480 Glove thickness 0.7 mm Eye protection: Safety glasses Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties Appearance Form: Dispersion Odor: odourless Odor Threshold: No data available pH: No data available Melting point/freezing point Melting point/range: No data available Initial boiling point and boiling range No data available Flash point: No data available Evaporation rate: No data available Flammability (solid, gas) Upper/lower flammability or explosive limits: No data available Vapor pressure: No data available Vapor density: No data available Relative density: No data available Partition coefficient: n-octanol/water: No data available Auto-ignition temperature: No data available Decomposition temperature: No data available Viscosity: No data available Explosive properties: No data available Oxidizing properties: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity No data available Chemical stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous reactions Reacts with strong oxidizing agents Conditions to avoid No data available Incompatible materials: Acids

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

Skin irritation or corrosion:

Causes skin irritation.

Eye irritation or corrosion:

May cause irritation

Sensitization:

No sensitizing effects known.

Germ cell mutagenicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:

EPA-II: Inadequate information to access carcinogenic potential.

IARC-3: Not classifiable as to carcinogenicity to humans.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

Reproductive toxicity:

Suspected of damaging fertility or the unborn child.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure:

May cause damage to the kidneys, the liver, the heart, the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative. Specific target organ system toxicity - single exposure:

May cause respiratory irritation.

May cause drowsiness or dizziness.

Aspiration hazard:

May be fatal if swallowed and enters airways.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Carcinogenic categories

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 **Bioaccumulative potential** No data available Mobility in soil No data available Additional ecological information: Do not allow product to reach groundwater, water courses, or sewage systems. Danger to drinking water if even small quantities leak into the ground. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: N/A vPvB: N/A Other adverse effects No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods Recommendation Consult official regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number DOT, IMDG, IATA UN1294 UN proper shipping name DOT **RQ** Toluene IMDG, IATA TOLUENE Transport hazard class(es) DOT Class 3 Flammable liquids. Label 3 Class 3 (F1) Flammable liquids Label 3 IMDG, IATA Class 3 Flammable liquids. Label 3

Packing group DOT, IMDG, IATA Ш Environmental hazards: N/A Special precautions for user Warning: Flammable liquids EMS Number:F-E,S-D Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A Transport/Additional information: DOT Hazardous substance: 1000 lbs, 454 kg Marine Pollutant (DOT): No UN "Model Regulation": UN1294, Toluene, 3, II

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS GHS label elements, including precautionary statements Hazard pictograms GHS02 GHS07 GHS08 Signal word Danger Hazard statements H225 Highly flammable liquid and vapor. H315 Causes skin irritation. H361 Suspected of damaging fertility or the unborn child. H336 May cause drowsiness or dizziness. H373 May cause damage to the kidneys, the liver, the heart, the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative. H304 May be fatal if swallowed and enters airways. Precautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P261 Avoid breathing dust/fume/gas/mist/vapors/spray. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. National regulations All components of this product are listed in the U.S. Environmental Protection Agency Toxic

Substances Control Act Chemical substance Inventory. All components of this product are listed on the Canadian Domestic Substances List (DSL). SARA Section 313 (specific toxic chemical listings) 108-88-3 Toluene California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed. Prop 65 - Developmental toxicity 108-88-3 Toluene Prop 65 - Developmental toxicity, female 108-88-3 Toluene Prop 65 - Developmental toxicity, male Substance is not listed. Information about limitation of use: For use only by technically qualified individuals. Other regulations, limitations and prohibitive regulations Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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.