SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Nickel Carbide

**Product Code:** NI-C-04

**CAS Number:** 12710-36-0

**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: Domestic, North America +1 800-424-9300 International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**
Classification according to Regulation (EC) No 1272/2008
GHS02 Flame
Flam. Sol. 2 H228 Flammable solid.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
F; Highly flammable
R11: Highly flammable.

**Information concerning particular hazards for human and environment:**
N/A

Hazard pictograms

**Signal word**
Warning

**Hazard statements**
H228 Flammable solid.

**Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
P370+P378 In case of fire: Use for extinction: CO2, sand, extinguishing powder.  

WHMIS classification  
B4 - Flammable solid  

Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
Health (acute effects) = 1  
Flammability = 2  
Physical Hazard = 1  
Other hazards  
Results of PBT and vPvB assessment  
PBT: N/A  
vPvB: N/A  

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS  
PRODUCT NAME: Nickel Carbide  
FORMULA: Ni3C  
CAS #: 12710-36-0  

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  
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  
In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.  
Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.  
For safety reasons unsuitable extinguishing agents
Water
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
Tantalum oxide
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.
Do not allow material to penetrate the ground or soil.
Methods and materials for containment and cleanup:
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
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.
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/PERSOAL PROTECTION

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and
having an average face velocity of at least 100 feet per minute.

Control parameters
Components with limit values that require monitoring at the workplace:
None.

Additional information:
None.

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.
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 type N95 (USA) or PE (EN 143) cartridges 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.

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
Nitrile rubber, NBR

Penetration time of glove material (in minutes)
480

Glove thickness
0.11 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: Powder
Color: Black
Odor: No data available
Odor threshold: No data available.

pH: N/A

Melting point/Melting range: No data available
Boiling point/Boiling range: No data available
Sublimation temperature / start: No data available
Flammability (solid, gas)
Highly flammable.
Ignition temperature: No data available
Decomposition temperature: No data available
Autoignition: No data available.
Danger of explosion: No data available.
Explosion limits:
Lower: No data available
Upper: No data available
Vapor pressure: N/A
Density at 20 °C (68 °F): No data available
Relative density: No data available.
Vapor density: N/A
Evaporation rate: N/A
Solubility in Water (H₂O): No data available
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information
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
Oxidizing agents
Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Tantalum oxide

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.
LD/LC50 values that are relevant for classification:
No data
Skin irritation or corrosion:
May cause irritation
Eye irritation or corrosion:
May cause irritation
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
No effects known.
Specific target organ system toxicity - repeated exposure:
No effects known.
Specific target organ system toxicity - single exposure:
No effects known.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:
No effects known.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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 undiluted product or large quantities to reach groundwater, water courses, or sewage systems.
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
UN3178
UN proper shipping name
DOT
Flammable solid, inorganic, n.o.s. (Nickel carbide)
IMDG, IATA
FLAMMABLE SOLID, INORGANIC, N.O.S. (Nickel carbide)
Transport hazard class(es)
DOT
Class
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label
4.1
Class
4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives
Label
4.1
IMDG, IATA
Class
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label
4.1
Packing group
DOT, IMDG, IATA
III
Environmental hazards:
N/A
Special precautions for user
Warning: Flammable solids, self-reactive substances and solid desensitised explosives
EMS Number:
F-A,S-G
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Marine Pollutant (DOT):
No
UN "Model Regulation":
UN3178, Flammable solid, inorganic, n.o.s. (Nickel carbide), 4.1, III

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
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)
Substance is not listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
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.
REACH - Pre-registered substances
Substance is listed.
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 1997-2016 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.