SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product Name: Silicon Carbide Nanoparticle Dispersion

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

CAS #: 409-21-2

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. 3 H226 Flammable liquid and vapor.
GHS07
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2
H315 Causes skin irritation.
Eye Irrit. 2
H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.
Hazards not otherwise classified
No data available
GHS label elements
GHS label elements, including precautionary statements
Hazard pictograms
GHS02 GHS07
Signal word
Warning
Hazard statements
H226
Flammable liquid and vapor.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H315
Causes skin irritation.
H319
Causes serious eye irritation.
H317
May cause an allergic skin reaction.
H335
May cause respiratory irritation.
Precautionary statements
P210
Keep away from heat/sparks/open flames/open surfaces. - No smoking.
P261
Avoid breathing dust/fume/gas/mist/vapors/spray.
P280
Wear protective gloves/protective clothing/eye protection/face protection.
P240
Ground/bond container and receiving equipment.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 victim to fresh air and keep at rest in a position comfortable for breathing.
P362
Take off contaminated clothing and wash before reuse.
P405
Store locked up.
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS classification
B3 - Combustible liquid
D2B - Toxic material causing other toxic effects
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
Health (acute effects) = 2
Flammability = 2
Physical Hazard = 1
Other hazards
Results of PBT and vPvB assessment
PBT:
N/A
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name:

409-21-2 Silicon carbide
Identification number(s):
EC number: 206-991-8

141-32-2 n-Butyl acrylate
Identification number(s):
EC number: 205-480-7

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.
Harmful if swallowed.
Causes serious eye irritation.
Harmful if inhaled.
Harmful in contact with skin.
May cause respiratory irritation.
May cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
CO2, sand, extinguishing powder. Do not use water.
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
Danger of containers bursting upon heating.

If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide

Advice for firefighters
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 material to be released to the environment without official permits.
Methods and materials for containment and cleanup:
Keep away from ignition sources.
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.
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:
No special requirements.
Information about storage in one common storage facility:
Store in the dark.
Protect from heat.
Do not store together with acids.
Store away from strong bases.
Store away from oxidizing agents.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Protect from exposure to light.
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
Butyl rubber, BR
Penetration time of glove material (in minutes)
480
Glove thickness
0.3 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: Liquid
Odor: Unpleasant
Odor threshold: No data available.
pH: No data available.
Melting point/Melting range: -64 °C (-83 °F)
Boiling point/Boiling range: 145-146 °C (293-295 °F)
Sublimation temperature / start: No data available
Flash point: 39 °C (102 °F)
Flammability (solid, gas)
N/A
Ignition temperature: 275 °C (527 °F)
Decomposition temperature: No data available
Autoignition: No data available.
Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures is possible.

Explosion limits:
Lower: 1.2 Vol %
Upper: 8 Vol %

Vapor pressure at 20 °C (68 °F): 5.3 hPa (4 mm Hg)

Relative density
No data available.

Vapor density
No data available.

Evaporation rate
No data available.

Solubility in / Miscibility with Water at 20 °C (68 °F): 1.4 g/l

Partition coefficient (n-octanol/water): No data available.

Viscosity:
Dynamic: No data available.
Kinematic: No data available.

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

Danger of polymerization
Conditions to avoid
No data available

Incompatible materials:
Acids
Oxidizing agents
Bases
Heat
Light
Ultraviolet radiation
Free radical initiators

Hazardous decomposition products:
Carbon monoxide and carbon dioxide

Additional information:
Avoid loss of stabilizer.
Unless inhibited, the product can polymerize resulting in a temperature and pressure increase that may rupture the container.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Harmful if inhaled.
Harmful in contact with skin.
Harmful if swallowed.
Danger through skin absorption.
LD/LC50 values that are relevant for classification:
Oral
LD50 900 mg/kg (rat)
Dermal
LD50 1790 mg/kg (rabbit)
Inhalative LC50/4H 2730 ppm/4H (rat)
Skin irritation or corrosion:
Causes skin irritation.
Eye irritation or corrosion:
Causes serious eye irritation.
Sensitization:
May cause an allergic skin reaction.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
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:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
Specific target organ system toxicity - repeated exposure:
No effects known.
Specific target organ system toxicity - single exposure:
May cause respiratory irritation.
Aspiration hazard:
No effects known.
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 material to be released to the environment without official permits.
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.
Also poisonous for fish and plankton in water bodies.
Toxic to aquatic life.
May cause long lasting harmful effects to aquatic life.
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
UN2348

UN proper shipping name
DOT
Butyl acrylates, stabilized
IMDG, IATA
BUTYL ACRYLATES, STABILIZED

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
III
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
Marine Pollutant (DOT):
No
UN "Model Regulation":
UN2348, Butyl acrylates, stabilized, 3, III

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
Signal word
Warning
Hazard statements
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Flammable liquid and vapor.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
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Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261
Avoid breathing dust/fume/gas/mist/vapors/spray.
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Wear protective gloves/protective clothing/eye protection/face protection.
P240
Ground/bond container and receiving equipment.
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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 victim to fresh air and keep at rest in a position comfortable for breathing.
P362
Take off contaminated clothing and wash before reuse.
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)
141-32-2 n-Butyl acrylate
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.
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 1997-2019 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.