SECTION 1. IDENTIFICATION

Product Name: Hydroxyapatite Nanoparticles / Nanopowder

Product Number: All applicable American Elements product codes, e.g. CA-PATOH-017-NP, CA-PATOH-018-NP, CA-PATOH-02-NP

CAS #: 1306-06-5

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 in accordance with 29 CFR 1910 (OSHA HCS):
GHS07
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Hazards not otherwise classified
No data available.

GHS label elements
The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

GHS07
Signal word
Warning
Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
Precautionary statements
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.
P362
Take off contaminated clothing.
P321
Specific treatment (see on this label).
P332+P313
If skin irritation occurs: Get medical advice/attention.
P337+P313
If eye irritation persists: Get medical advice/attention.

WHMIS classification
Not controlled
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
Health (acute effects) = 1
Flammability = 0
Physical Hazard = 1
Other hazards

Results of PBT and vPvB assessment:
PBT: N/A.
vPvB: N/A.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures
Dangerous components:
1306-06-5 Calcium phosphate tribasic (Hydroxyapatite)
Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335
10.0%
Additional information
None known.
Non-Hazardous Ingredients
7732-18-5 Water
90.0%

SECTION 4. FIRST AID MEASURES

Description of first aid measures
If inhaled:
Supply 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 information available.
Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Calcium oxide
Phosphorus oxides

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
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

Environmental precautions:
Do not allow product to reach sewage system or any water course.

Methods and material for containment and cleanup:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Prevention of secondary hazards:
No special measures required.

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 adequate ventilation.

Information about protection against explosions and fires:
The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and receptacles:
Refrigerate

Information about storage in one common storage facility:
Protect from heat.

Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.

Further information about storage conditions:
Keep container tightly sealed.
Refrigerate
Specific end use(s)
No information available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL 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:
The product does not contain any relevant quantities of materials with critical values that should be monitored at the workplace.

Additional information:
No data
Exposure controls
Personal protective equipment
Follow typical general protective and industrial hygiene measures 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.

Breathing equipment:
Use suitable respirator when high concentrations are present.

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.
Penetration time of glove material (in minutes)
No data available.

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: No data available.
Odor threshold: No data available.
pH: No data available.
Melting point/range: No data available.
Boiling point/range: No data available.
Sublimation temperature / start: No data available.
Flammability (solid, gas):
No data available.
Ignition temperature: No data available.
Decomposition temperature: No data available.
Auto igniting: Product is not selfigniting.
Danger of explosion: No data available.
Explosion limits:
Lower: No data available.
Upper: No data available.
Vapor pressure at 20 °C (68 °F): 23 hPa (17 mm Hg)
Density: No data available.
Relative density
No data available.
Vapor density
No data available.
Evaporation rate
No data available.
Solubility in Water (H₂O): Not miscible or difficult to mix
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: No data available.
Kinematic: No data available.
Solvent content:
Organic solvents:
0.0 %
Solids content:
10.0 %
Other information
No information 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
Water reacts violently with alkali metals.
Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.
Conditions to avoid
No information available.
Incompatible materials:
Heat
Hazardous decomposition products:
Calcium oxide
Phosphorus oxides (e.g. P₂O₅)
SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
N/A
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:
The sensitizing effects are known.
Germ cell mutagenicity:
N/A
Carcinogenicity:
No classification data on the carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
N/A
Specific target organ system toxicity - repeated exposure:
N/A
Specific target organ system toxicity - single exposure:
N/A
Aspiration hazard:
N/A
Subacute to chronic toxicity:
N/A
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 information available.
Persistence and degradability:
No information available.
Bioaccumulative potential:
No information available.
Mobility in soil:
No information available.
Additional ecological information:
General notes:
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.
Results of PBT and vPvB assessment:
PBT:
N/A.
vPvB:
SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, ADN, IMDG, IATA
N/A
UN proper shipping name
DOT, ADN, IMDG, IATA
N/A
Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA
Class
N/A
Packing group
DOT, IMDG, IATA
N/A
Environmental hazards:
Marine pollutant (IMDG):
No
Special precautions for user
N/A.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A.
Transport/Additional information:
DOT
Marine Pollutant (DOT):
No

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements
The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms
GHS07
Signal word
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Hazard statements
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Precautionary statements
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If skin irritation occurs: Get medical advice/attention.
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If eye irritation persists: Get medical advice/attention.

National regulations
All components of this product are listed on the Canadian Domestic Substances List (DSL).
This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.
This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.
SARA Section 313 (specific toxic chemical listings)
None of the ingredients are listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer
None of the ingredients are listed.
Prop 65 - Developmental toxicity
None of the ingredients are listed.
Prop 65 - Developmental toxicity, female
None of the ingredients are listed.
Prop 65 - Developmental toxicity, male
None of the ingredients are 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. None of the ingredients are 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.
None of the ingredients is listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
None of the ingredients is 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
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