

3401 Grays Ferry Avenue, Building 197, Philadelphia PA 19146

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Safety Data Sheet

1. Identification

Product Name	Hydroxyapatite
Substance/Mixture	Substance
Company:	Allevi, Inc.
Address	3401 Grays Ferry Avenue, Building 197, Philadelphia PA 19146
Telephone	207-891-9635
Email	info@allevi3D.com

2. Hazards Identification

Classification of the substance or mixture		
Physical Hazards	None.	
Health Hazards	None.	
Environmental Hazards	None.	
Label Elements, including precautionary statements		
Pictograms or hazard symbols	None.	
Signal word	None.	
Hazard Statements	Not a hazard substance or mixture.	
Precautionary statements	None.	

Other Hazards not otherwise classified (HNOC) or not covered by GHS - none

Results of PBT and vPvB assessment:

PBT: Not required/not conducted

vPvB: Not required/not conducted

3. Composition/Information on Ingredients

Product Name	Hydroxyapatite
Substance/Mixture	Substance
Chemical composition	Hydroxyapatite
Chemical Formula	HCa ₅ O ₁₃ P ₃

Mean Molecular Weight	502.31 g/mol
CAS Number	12167-74-7
Notice through Official Gazettes Reference Numbers	
ENCS	235-330-6

4. First Aid Measure

After Inhalation:	Move person into fresh air. If not breathing, give artificial respiration.
After Skin Contact:	Wash off with soap and plenty of water. Consult a physician.
After Eye Contact:	Flush eyes with water as a precaution.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in section 12.
Indication of any immediate medical attention and special treatment needed	No further relevant information available.

5. Fire-fighting Measures

Suitable Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards arising from the chemical:	Oxides of phosphorous, calcium oxide.
Precautions for Firefighters:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information:	No data available.

6. Accidental Release Measures

Personal Precautions, Protective equipment and emergency procedures	Use personal protective equipment. Avoid breathing vapors, mist or gas. Avoid breathing dust. For personal protection, see section 8.
Environmental Precautions:	Do not let product enter drains.
Methods and materials for containment and cleaning up:	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
Reference to other sections:	For disposal see section 13.

7. Handling and Storage

Precautions for Safe Handling	
Technical Measures:	Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before

	additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.
Conditions for safe storage, including any incompatibilities	
Storage Conditions:	Dry.
Specific end use(s)	No further relevant information available.

8. Exposure Controls/Personal Protection

Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Eye/face protection	Use equipment protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Skin protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body protection	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection	Respiratory protection is not required. Where protection from nuisance levels of dusts are desired. Use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure	Do not let product enter drains.

9. Physical and Chemical Properties

Appearance	Form: solid, powder Color: white, off-white
Odor	No data available
Odor Threshold	No data available
pH	No data available
Melting point/freezing	1,100°C (2,012°F)
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available

Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	3.140 g/cm ³
Water solubility	insoluble
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

10. Stability and Reactivity

Reactivity	No data available
Chemical Stability	Stable under recommended storage conditions
Possibility of hazardous reactions	No data available
Conditions to avoid	No data available
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. – oxides of phosphorous, calcium oxide Other decomposition products – No data available In the event of fire: see section 5

11. Toxicological Information

Acute toxicity:	LD50 Oral – Rat – male and female - > 5,000 mg/kg Inhalation: No data available LD50 Dermal – Rabbit – male and female - > 2,000 mg/kg No data available
Skin corrosion/irritation:	Skin – Rabbit Result: No skin irritation – 4 h (OECD Test Guideline)
Serious eye damage/irritation:	Eyes – Rabbit Result: No eye irritation
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	Mouse Lymphocyte Result: negative

Carcinogenicity:	IARC: No component of this product present at levels greater than of equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
Reproductive toxicity:	No data available
Specific target organ toxicity – single exposure:	No data available
Specific target organ toxicity – repeated exposure:	No data available
Aspiration hazard:	No data available
Additional Information:	RTECS: Not available Gastrointestinal disturbance, nausea, headache, vomiting, to the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information

Toxicity	No data available
Persistence/degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil	No data available
Results of PBT and vBvB assessment	PBT/vPvB assessment was not required/not conducted
Other adverse effects	No data available

13. Disposal Considerations

Waste Treatment methods	Offer surplus and non-recyclable solutions to a licensed disposal company.
Uncleaned packaging	Dispose of as unused product.

14. Transport Information

DOT (US)	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

15. Regulatory information

SARA 302 Components	This material does not contain any components with a section 302 EHS TPQ.
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Section 311/312:	No SARA Hazards
Massachusetts Right to Know Components	No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components	Pentacalcium hydroxide tris(orthophosphate) CAS-No. 12167-74-7
California Prop. 65 Components	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. Other Information

This information is based on our present knowledge. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility. Allevi, Inc. and its affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. This document and information shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.