



GENERAL ENGINEERING AND RESEARCH

Safety Data Sheet

Polymer coated Silica Nanoparticles in H2O

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Polymer Coated Silica Nanoparticles in H2O, Polyvinyl Acetate Coated Silica Nanoparticles in H2O, Polyethylene glycol Coated Silica Nanoparticles in H2O, Polystyrene Coated Silica Nanoparticles in H2O, Polyimide Coated Silica Nanoparticles in H2O

COMMON SYNONYMS: PVAc coated silica, PS coated silica, PEG coated silica, PI coated silica

Identified uses: Laboratory chemical, Manufacture of substances

Supplier: General Engineering & Research, L.L.C.
10459 Roselle St. Ste. A
San Diego, CA 92121-1527

Information: 858-291-8336

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

OSHA Hazards: Inhalation of mist or dust may be harmful. Avoid repeated or prolonged breathing of spray mist or dust.

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Specific target organ toxicity – repeated exposure (Category 1), H372

For the full text of the H-Statement mentioned in the Section, see Section 16.

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statement(s)

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.



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Get medical advice/ attention if you feel unwell.

Dispose of contents/ container to an approved waste disposal plant.

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>Cas-No.</u>	<u>Concentration</u>
Water	7631-86-9	85-95.0%
Colloidal Silica	14808-60-7	5-15.0%
Polymer		<1.0%

Appearance

Form	liquid
Colour	off-white to pink
Odour	none

<u>Hazardous Component</u>	<u>Classification</u>	<u>Concentration</u>
Silicon dioxide (amorphous)	STOT RE 1: H372	<15%

4. FIRST AID MEASURES

Inhalation: Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.

Skin contact: Continue washing for at least 15 minutes. Obtain medical attention if blistering occurs or redness persists. Wash clothing before reuse.

Eye contact: Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Ingestion: Wash out mouth with water. Have victim drink 1-3 glasses of water to dilute stomach contents. Induce vomiting if person is conscious. Immediate medical attention is required. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing.

Notes to physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point not applicable



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Suitable extinguishing media: Not readily combustible. Select extinguishing agent appropriate to other materials involved.

Specific hazards during fire-fighting: No specific measures necessary

Special protective equipment for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: This product may give rise to hazardous vapors in a fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear suitable protective clothing.

Environmental precautions

Prevent the material from entering drains or water courses.

Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

Methods for cleaning up

Contain spills immediately with inert materials (e.g. sand, earth).

Transfer into suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Handling

Use only well ventilated areas. Avoid contact with eyes. Avoid contact with skin, inhalation and ingestion. Avoid breathing vapor. Avoid breathing dust. Keep from freezing. Keep away from children.

Storage

Storage conditions: Store in original container. Storage area should be: cool, well ventilated, out of direct sunlight, away from incompatible materials. Empty container contains product residue. Do not reuse container unless it has been properly reconditioned.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
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Colloidal silica	NIOSH/GUIDE Z3	REL TWA	6mg/m ³ 0.8 mg/m ³
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Eye protection: Goggles

Hand protection: Nitrile rubber gloves. Other chemical resistant gloves may be recommended by your safety professional.

Skin and body protection: Normal work wear.

Respiratory protection: No personal respiratory protective equipment normally required. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Engineering measures: Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	off-white to pink
Odour	none
pH	7.0 – 8.0
Boiling point/range	similar to water
Flash point	not applicable

Component: **Colloidal silica**

Vapour pressure 1.3332kPa at 1,732 °C (3,150 °F)

Relative vapour density	Heavier than air.
Water solubility	partly soluble
Relative density	1.00 – 1.10
Evaporation rate	Slower than ether
VOC's	0 g/l

Note: The physical data presented above are typical values and should not be construed as a specification.



10. STABILITY AND REACTIVITY

Hazardous reactions	Stable under normal conditions
Conditions to avoid	Extreme heat, freezing temperatures
Materials to avoid	strong oxidizers
Hazardous decomposition Products	oxides of silicon, irritating fumes, acidic fumes
Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Component: <u>Colloidal Silica</u>	
Acute oral toxicity	LD50 rat > 3,000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

13. DISPOSAL CONSIDERATIONS

Environmental precautions: Prevent the material from entering drains or water courses. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

Disposal

Dispose in accordance with all local, state (provincial), and federal regulations. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Do not remove label until container is thoroughly cleaned. Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way.

14. TRANSPORT INFORMATION

DOT



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Not regulated for transport

IMO/IMDG

Not regulated (Not dangerous for transport)

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations.

15. REGULATORY INFORMATION

SARA TITLE III: Section 311/312 Categorizations (40CFR370): Immediate health hazard

SARA TITLE III: Section 313 Information (40CFR372)

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

US. Toxic Substances Control Act (TSCA) All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

California (Proposition 65)

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

Hazard Rating

	Health	Fire	Reactivity
NFPA	1	0	0

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
