

Safety Data Sheet

Version 1.1

Revision date: Mar 9, 2017



Amine polyethylene glycol (PEG) coated gold nanoparticles

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

| | |
|---|---|
| Product identifier: | Amine polyethylene glycol (PEG) coated gold nanoparticles |
| Particle diameter: | 4 nm to 200 nm |
| Unit size: | 0.4 mL to 3 mL |
| Manufacturer's name and address: | Luna Nanotech Inc., 439 University Avenue, 5 th Floor Toronto, ON M5G 1Y8 |
| Business telephone number: | 1-800-474-4055 |
| Emergency telephone numbers: | Canada: Canutec 1-888-226-8832 USA: Chemtrec 1-800-424-9300 |
| Product use: | For research use only. Not intended for human or animal diagnostic or therapeutic uses. |

SECTION 2: HAZARD IDENTIFICATION

| | |
|--------------------------------|---|
| Emergency overview: | Harmful if swallowed, inhaled, or contacted with skin . |
| Routes of entry: | Inhalation, ingestion, skin absorption, or eye contact. |
| Effect of overexposure: | May cause contact dermatitis. |

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|-------------------------------|--|
| This Product Contains: | Amine polyethylene glycol (PEG) coated colloidal gold nanoparticles in water |
| Component 1: | Water, >99% (w/v), CAS 7732-18-5 |
| Component 2: | Gold, 0.25% (w/v), CAS 7440-57-5 |

SECTION 4: FIRST AID MEASURES

| | |
|---------------------------------|---|
| General advice: | Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. |
| If inhaled: | If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| In case of skin contact: | Wash off with soap and plenty of water. Consult a physician. |

Safety Data Sheet

Version 1.1

Revision date: Mar 9, 2017



Amine polyethylene glycol (PEG) coated gold nanoparticles

- In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- If swallowed:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIREFIGHTING MEASURES

- Conditions of flammability:** Not flammable
- Means of extinction:** Use water spray, alcohol-resistant foam, dry chemical or CO₂
- Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.
- Hazardous decomposition products formed under fire conditions:** Emits toxic fumes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Use personal protective equipment. Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.
- Environmental precautions:** Do not let product enter drains. Discharge into the environment must be avoided.
- Methods and materials for containment and cleaning up:** Isolate contaminated area and wear appropriate protective clothing. Absorb spillage on appropriate material and place in closed container for proper disposal according to section 13 and wash area with copious amount of water. Make sure to properly ventilate area.

SECTION 7. HANDLING AND STORAGE

- Handling:** Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation. Wear laboratory coat, gloves and protective glasses during handling. In case of insufficient ventilation, wear suitable respiratory equipment.
- Conditions for safe storage:** Keep container tightly closed and away from light. This product retains stability when stored between 4-25° C. Do NOT freeze.

Safety Data Sheet

Version 1.1

Revision date: Mar 9, 2017



Amine polyethylene glycol (PEG) coated gold nanoparticles

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|---------------------------------------|--|
| Respiratory protection: | If exposure limits are exceeded or irritation is experienced, respiratory protection approved under NIOSH/MSHA must be worn. For high airborne contaminant concentration positive-pressure supplied air respirators may be required. |
| Eye protection: | Wear safety glasses with side shields conforming to EN166. Avoid contact with the eyes. |
| Hand protection: | Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. |
| Skin and body protection: | Wear a lab coat. |
| Hygiene measures: | Handle in accordance with good industrial hygiene and safety practice. |
| Specific engineering controls: | Use appropriate mechanical exhaust or laboratory fume hood to avoid exposure. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-------------------------------|---|
| Appearance: | Liquid |
| Color: | Range: bright red to brown (depends on nanoparticle diameter) |
| Odour: | Odourless |
| Taste: | Not available |
| pH: | 5-7 |
| Boiling point: | Not available |
| Melting point: | Not available |
| Flash point: | Not available |
| Evaporation rate: | Not available |
| Explosion limits: | Not available |
| Specific gravity: | Not available |
| Vapor pressure: | Not available |
| Vapor density: | Not available |
| Volatility: | Not available |
| Solubility: | Not available |
| Thermal decomposition: | Not available |
| Viscosity: | Not available |

SECTION 10: STABILITY AND REACTIVITY

| | |
|-------------------------------|--|
| Stability: | Stable under recommended storage conditions. |
| Incompatible products: | Not available |

Safety Data Sheet

Version 1.1

Revision date: Mar 9, 2017



Amine polyethylene glycol (PEG) coated gold nanoparticles

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|--------------------------------|---|
| Inhalation: | May be harmful if inhaled |
| Eye contact: | May be harmful in contact with the eyes |
| Ingestion: | May be harmful if ingested |
| Skin contact: | May be harmful if contact with the skin |
| Germ cell mutagenicity: | Not available |
| Carcinogenicity: | Not available |
| Reproductive toxicity: | Not available |
| STOT-singe exposure: | Not available |
| STOT-repeated exposure: | Not available |

SECTION 12: ECOLOGICAL INFORMATION

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

| | |
|--------------------------------|---|
| Product: | The product should not be allowed to enter drains, watercourses or the soil. Disposing should be performed in compliance with local and national regulation by a licensed waste management company. |
| Contaminated packaging: | Dispose of as unused product. Do not reuse empty containers. |

SECTION 14: TRANSPORT INFORMATION

Not regulated.

SECTION 15: REGULATORY INFORMATION

OSHA Hazard

Flammable liquid, Irritant, Target Organ Effect

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Safety Data Sheet

Version 1.1

Revision date: Mar 9, 2017



Amine polyethylene glycol (PEG) coated gold nanoparticles

WHMIS (Canada): Not regulated

HMIS (U.S.A): Not regulated

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

SECTION 16: OTHER INFORMATION

The above information provided in this Materials Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of publication. The information given is designed only as a guidance for safe handling, processing, use, transportation, storage, disposal and release. This information 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.

End of Material Safety Data Sheet