1. IDENTIFICATION

Product Identifier
  Trade name: STRATOSPHERE, IONOSPHERE, TROPOSPHERE

Relevant identified uses of the substance or mixture and uses advised against
  No further relevant information available.

Application of the substance / mixture
  Dental Amalgam

Details of the supplier of the safety data sheet
Distributed by: Henry Schein Inc.
  135 Duryea Road
  Melville, NY 11747 USA

Information Department:
  Quality Assurance / Regulatory Affairs

Emergency telephone number:
  24 Hour emergency Assistance: Chemtrec US + 1-800-424-3900
                               International + 1-703-527-3887
  General MSDS Assistance: Information + 1-800-472-4346

2. HAZARD(s) IDENTIFICATION

Classification of the substance or mixture
  Very toxic
  Very toxic by inhalation
  Toxic
  May cause harm to unborn child. Toxic: danger of serious damage to health by prolonged exposure through inhalation.

Classification system
  The classification was made according to the latest editions of international Substances lists, and expanded upon company literature and data.
Safety Data Sheet
Acc. to OSHA (HCS/GHS)

Revision Date: 08/04/2016

Label Elements
Code letter and hazard designation of product
Signal word: Danger
Pictograms: GHS06-GHS05-GHS07

Acute Toxicity (fatal or toxic) Corrosive Exclamation Mark

Hazard-determining components of labeling:
Mercury

Risk Phrases
May cause harm to unborn child. Very toxic by inhalation.
Toxic: danger of serious damage to health by prolonged exposure through inhalation.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases
Avoid exposure - obtain special instructions before use.
Keep container in a well-ventilated place.
After contact with skin, wash immediately with plenty of soap and water.
Wear suitable protective clothing, gloves and eye/face protection.
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Use appropriate container to avoid environmental contamination.

Classification system
NFPA ratings (scale 0 - 4)
Health = 4
Fire = 0
Reactivity = 0
3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Description:
Alloy powder and mercury in pre-dosed capsules.

Dangerous components:
7439-97-6 mercury 50%

4. FIRST-AID MEASURES

Description of first aid measures
General information:
Immediately remove any clothing soiled by the product.

After inhalation:
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

After skin contact:
Immediately wash with water and soap and rinse thoroughly.
After eye contact:
  Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:
  Rinse out mouth and then drink plenty of water. 
  Do not induce vomiting; immediately call for medical help.

Most important symptoms and effects, both acute and delayed:
  No further relevant information available.

Indication of any immediate medical attention and special treatment needed
  Antidote: DMPS

5. FIRE-FIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents:
  The product is not flammable. 
  Use firefighting measures that suit the environment.

Special hazards arising from the substance or mixture
  In case of a fire very toxic mercury fumes will generate. 
  Fumes are heavier than air.

Advice for firefighter’s
Protective equipment
  Wear self-contained respiratory protective device.

Additional information:
  Cool endangered receptacles with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.

Environmental precautions
  Do not allow product to reach sewage system or any water course. 
  Inform respective authorities in case of seepage into water course or sewage system.
Methods and material for containment and cleaning up

Spillages of mercury should be removed immediately, including from places which are difficult to access.
Use a plastic syringe to draw it up. Smaller quantities can be covered by sulphur powder and removed.
Avoid inhalation of vapors
Ensure adequate ventilation.
Dispose contaminated material as waste according to item 13.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Only adequately trained personnel should handle this product.
Ensure good ventilation/exhaustion at the workplace.
For use in dentistry only.

Information about protection against explosions and fires

Keep respiratory protective device available.

Conditions for safe storage, including any incompatibilities

Storage: Requirements to be met by storerooms and receptacles
Store only in unopened original receptacles.

Information about storage in one common storage facility

Not required.

Further information about storage conditions

Keep receptacle tightly sealed.
Store receptacle in a well ventilated area.

Specific end use(s):
No further relevant information available
Additional information about design of technical systems
No further data; see item 7.

Control parameters
Components with limit values that require monitoring at the workplace

**7439-97-6 mercury**
- PEL Long-term value: 0.1 mg/m³ as Hg; see OSHA standard interpretation memo
- REL Long-term value: 0.05* mg/m³ as Hg; *Vapor; Skin
- Ceiling limit value: 0.1 mg/m³ as Hg; Skin; BEI
- TLV Long-term value: 0.025 mg/m³ as Hg; Skin; BEI

Ingredients with biological limit values

**7439-97-6 mercury**
- BEI 35 µg/g creatinine
- Medium: urine
- Time: prior to shift
- Parameter: Total inorganic mercury (background)
- 15 µg/L
- Medium: blood
- Time: end of shift at end of workweek
- Parameter: Total inorganic mercury (background)

Additional information:
The lists that were valid during the creation were used as basis.

Exposure controls
Personal protective equipment
General protective and hygienic measures

Usual hygienic measures for dental practice.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Store protective clothing separately.
Safety Data Sheet
Acc. to OSHA (HCS/GHS)

Revision Date: 08/04/2016
Version No. 3

Breathing equipment
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory device that is independent of circulating air.

Recommended filter device for short term use
Special gas filter Hg-P3

Protection of hands
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation after use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacture.

- Natural rubber, NR
- Nitrile rubber, NBR
- Butyl rubber, BR
- Fluorocarbon rubber (Viton)

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the Protective gloves and has to be observed.

Eye protection
Tightly sealed goggles

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
General Information
The physical and chemical properties in this section refer to the mercury.

Appearance
Form: Fluid
Color: Silver grey
Odor: Odorless
Safety Data Sheet  
Acc. to OSHA (HCS/GHS)

Revision Date: 08/04/2016  
Version No. 3

Odor threshold: Not determined.
pH-value: Not determined.
Change in condition
Melting point/Melting range: -38 °C (-36 °F)
Boiling point/Boiling range: 356 °C (673 °F)
Flash point: Not applicable.
Auto igniting: Product is not self-igniting.
Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not determined.
Density at 20 °C (68 °F): 13.54 g/cm³ (112.991 lbs/gal)
Relative density: Not determined.
Vapor density: Not determined.
Evaporation rate: Not determined.
Solubility in / Miscibility with
Water: Insoluble.
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: Not determined.
Kinematic: Not determined.
Other information  No further relevant information available.

10. STABILITY AND REACTIVITY

Reactivity
No further relevant information available.

Chemical stability
Stable under normal handling and storage conditions.

Thermal decomposition / conditions to be avoided
No decomposition if used according to specifications.

Possibility of hazardous reactions
No dangerous reactions known.

Conditions to avoid
No further relevant information available.
Safety Data Sheet
Acc. to OSHA (HCS/GHS)

Revision Date: 08/04/2016
Version No. 3

Incompatible materials
No further relevant information available.

Hazardous decomposition products
None under normal conditions of storage and use.

Additional information
Avoid contact with ammoniac, amines, metals and strong acids.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity
Primary irritant effect

On the skin
No irritant effect.

On the eye
No irritating effect.

Sensitization
Mercury may have a sensitizing effect on the skin and lungs, or act as a nephrotoxin or neurotoxin.

Additional toxicological information
The product shows the following dangers according to internally approved calculation methods for preparation.
Harmful
Very toxic
Alloy powder and mercury are pre-dosed in closed capsules, therefore the danger of exposition to mercury vapors are low.
Avoid exposure of mercury to pregnant person.

Carcinogenic categories

IARC (International Agency for Research on Cancer)
7439-97-6 mercury 3
NTP (National Toxicology Program)  
None of the ingredients is listed.

12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity  
No further relevant information available.

Persistence and degradability  
No further relevant information available.

Bioaccumulative potential  
No further relevant information available.

Mobility in soil  
No further relevant information available.

Ecotoxical effects
Remark  
Very toxic for fish.

Additional ecological information
General notes  
Water hazard class 3 (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, Even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects  
No further relevant information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation
- Must be specially treated adhering to official regulations.
- Must not be disposed of together with household garbage.
- Do not allow product to reach sewage system.

Uncleaned packaging’s

Recommendation: Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

UN-Number
DOT UN2809
ADR, IMDG, IATA 2809
UN proper shipping name
IMDG, IATA MERCURY

Transport hazard class(es)
DOT, IMDG, IATA
Class 8 Corrosive substances.
Label 8

Packing group
DOT, ADR, IMDG, IATA III

Environmental hazards:
Marine pollutant: Yes

Special precautions for user Warning: Corrosive substances
Danger code (Kepler): 80
EMS Number: F-A,S-B

Segregation groups Heavy metals and their salts (including their organometallic compounds)

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.
### 15. REGULATORY INFORMATION

Safety, health and environmental regulations legislation specific for the substance or mixture:

**Section 355 (extremely hazardous substances)**
None of the ingredients is listed.

**Section 313 (Specific toxic chemical listings)**

7439-97-6 mercury

**TSCA (Toxic Substances Control Act):**

7439-97-6 mercury

**Proposition 65**

**Chemicals known to cause cancer**
None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for females**
None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for males**
None of the ingredients is listed.

**Chemicals known to cause developmental toxicity**

7439-97-6 mercury

**Carcinogenic categories**

**EPA (Environmental Protection Agency)**

7439-97-6 mercury D

**TLV (Threshold Limit Value established by ACGIH)**

7439-97-6 mercury A4

**NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

**OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.
Product related hazard information: Hazard symbols:

Signal word: Danger

Pictograms: GHS06-GHS05-GHS07

Acute Toxicity (fatal or toxic)  Corrosive  Exclamation Mark

Hazard-determining components of labeling
Mercury

Risk phrases
May cause harm to the unborn child. Also very toxic by inhalation.
Also toxic: danger of serious damage to health by prolonged exposure through Inhalation.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases
Avoid exposure - obtain special instructions before use. Keep container in a well-ventilated place.
After contact with skin, wash immediately with plenty of soap and water. Wear suitable protective clothing, gloves and eye/face protection.
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Use appropriate container to avoid environmental contamination.

National regulations

Other regulations, limitations and prohibitive regulations
This product is classified as a medical device under US and Canadian regulations and by the US Food and Drug Administration and Health Canada.

Hazard Communication Standard (HCS)
Globally Harmonized System (GHS)
A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.
Reviewed by: Elizabeth Anagnostos on 08/04/2016
Last revision: 03/30/2015