SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-O-14011
Product Name	Palladium on calcium carbonate (10%)
CAS No.	7440-05-3
Category	Catalyst
Synonyms	Not available
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Skin irritation (Category 2)
Serious eye damage/eye irritation (Category 2)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H228	Not available
H315	Causes skin irritation.
H319	Causes serious eye irritation.

H335	Not available
H413	Not available

Precautionary Statement(s)

Code	Statement
P210	Not available
P240	Not available
P241	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P264+P265	Not available
P271	Use only outdoors or in a well-ventilated area.
P273	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen
P319	Get medical help if you feel unwell.
P321	Specific treatment (see … on this label).
P332+P317	If skin irritation occurs: Get medical help.
P337+P317	If eye irritation persists: Get medical help.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Palladium on calcium carbonate (10%)
CAS Number : 7440-05-3

Molecular Formula : CCaO3Pd
Molecular Weight : 206.51
Parent Chemical : -
Synonyms : Not available
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
General advice:
- Remove contaminated clothing and shoes. Seek medical attention if symptoms persist.
- Show this Safety Data Sheet to the physician in attendance.

Inhalation:
- Move person to fresh air. Keep at rest in a position comfortable for breathing.
- If breathing is difficult, seek medical attention.

Skin contact:
- Wash with plenty of soap and water.
- Seek medical attention if irritation or symptoms occur.

Eye contact:
- Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.
- Continue rinsing and obtain medical attention if irritation persists.

Ingestion:
- Rinse mouth. Do NOT induce vomiting unless directed by medical personnel.
- Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed
- Not available.

4.3 Indication of any immediate medical attention and special treatment needed
- Treat symptomatically.
- No data available.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media:
- Use extinguishing measures appropriate to surrounding fire (e.g., water spray, dry chemical, foam, carbon dioxide).
Unsuitable extinguishing media:
- Not available.

5.2 Special hazards arising from the substance or mixture
- Thermal decomposition may produce irritating and/or toxic fumes.
- Dust may form combustible dust-air mixtures depending on particle size and concentration (No data available).

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Avoid inhalation of combustion products.
- Cool containers with water spray if exposed to fire.

Additional information:
- Not available.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Avoid dust formation and breathing dust.
- Provide adequate ventilation.
- Wear appropriate personal protective equipment (see Section 8).

6.2 Environmental precautions
- Prevent further leakage or spillage if safe to do so.
- Avoid release to the environment. Do not allow to enter drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up
- Avoid generating dust.
- Collect spilled material using methods that minimize dust generation (e.g., dampened absorbent or HEPA-filtered vacuum).
- Place in a suitable, closed container for disposal.

6.4 Reference to other sections
- See Section 8 for exposure controls/personal protection and Section 13 for disposal considerations.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Handle in accordance with good industrial hygiene and safety practice.
- Avoid contact with skin and eyes.
- Avoid breathing dust; avoid dust generation.
- Use with adequate ventilation/local exhaust.
- Keep away from incompatible materials (see Section 10).

7.2 Conditions for safe storage, including any incompatibilities
- Store in tightly closed container in a cool, dry, well-ventilated place.
- Protect from moisture.
- Keep container tightly sealed when not in use.
- Storage class: Not available.

7.3 Specific end use(s)
- Catalyst. No additional information available.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Occupational exposure limits:
- Not available.
Biological limit values:
- Not available.

8.2 Exposure controls
Engineering controls:
- Provide appropriate exhaust ventilation at places where dust is formed.
- Use process enclosure/local exhaust ventilation where feasible.

Personal protective equipment (PPE):
Eye/face protection:
- Safety glasses with side shields or chemical splash goggles.
Skin protection:
- Protective gloves (material and breakthrough time: Not available).
- Protective clothing as appropriate.
Respiratory protection:
- If ventilation is inadequate or dust is generated, use a suitable particulate respirator.
Thermal hazards:
- Not available.

Hygiene measures:
- Wash hands thoroughly after handling.
- Do not eat, drink, or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available

Property	Value
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

10.1 Reactivity
- No data available.

10.2 Chemical stability
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- No data available.

10.4 Conditions to avoid
- Avoid dust generation.
- Avoid excessive heat.
- Avoid moisture (if applicable).

10.5 Incompatible materials
- Strong oxidizing agents.
- Other incompatibilities: Not available.

10.6 Hazardous decomposition products

- Metal oxides and/or irritating/toxic fumes under fire conditions.
- Additional decomposition products: Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: IDENTIFICATION: Palladium is a steel white ductile metallic element. It is stable in air and resistant to attack by most reagents. It is soluble in a mixture of hydrochloric and nitric acids. Palladium and its alloys are used as catalysts in the petrochemical and automotive industries. Used in electronics and in dental applications. Purified metals between 99.9% and 99.99% are available for chemical use as foil, granules, rod or wire. HUMAN EXPOSURE: The general population is primarily exposed to palladium through dental alloys, jewlery, food and emissions from automobile catalytic converters. There are limited data concerning the distribution of palladium from dental resorations in human tissues or fluids. Populations at special risk of palladium allergy include people with known nickel allergy. ANIMAL STUDIES: Six months after a single intratracheal application of palladium dust, several histopathological signs of inflammation were noted in the lungs of rats. Daily oral administration of palladium dust over 6 months resulted in changes in several blood and urine parameters. Palladium applied in its metallic form showed no or little cytotoxicity.[For more Human Toxicity Excerpts (Complete) data for PALLADIUM, ELEMENTAL (11 total), please visit the HSDB record page.
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: /CASE REPORTS/ A 54-yr-old woman patient had symptoms of stomatitis and asthma following the provision of a dental prosthesis in July 1991. ...A positive patch test reaction /was found/ to palladium only, without any concomitant metallic contact dermatitis; in particular there was no sensitization to nickel. This is a very rare sensitization. After replacement of the dental alloy the clinical symptoms improved.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: No data available.
- Reproductive toxicity: No data available.
- STOT-single exposure: No data available.
- STOT-repeated exposure: /LABORATORY ANIMALS: Subchronic or Prechronic Exposure/ 6 months after a single intratracheal application of 50 mg palladium dust (about 143 mg/kg bw), the lungs of rats (Sprague-Dawley, female, n=10) were histopathologically examined. There were several signs of inflammatory responses (peribronchial inflammation, lymphocyte infiltration, interstitial pneumonia, formation of granulomata) observed, but no indications of interstitial fibrosis... . /LABORATORY ANIMALS: Subchronic or Prechronic Exposure/ Acute toxicity tests with 6 different palladium-containing dental alloys (pulverized; mean particle size 200 um; palladium content: 9-80 mass %) have been performed with rats (Wistar, n=10; 5 females, 5 males). Oral doses of 200 mg/kg bw (in gelatin capsules) did not cause deaths or apparent toxic signs. Histopathological changes in lung, liver and kidney of rats (Sprague-Dawley; n=14) were seen 5 weeks after single oral administration of cut dental alloy material (1 g/kg bw, in gelatin capsules; 6 different alloys; particle size not specified), which contained palladium at 2.5-4 weight % and total noble metals (gold, palladium) at 44-62%. However, alloys of a higher noble metal (gold, palladium, platinum) content (78-97%) containing palladium at 4-26.5% did not elicit significant effects.
- Aspiration hazard: No data available.

Likely routes of exposure
- Skin contact with palladium may cause contact dermatitis, erythema, and oedema. (L798)

Symptoms related to the physical, chemical and toxicological characteristics
- IDENTIFICATION: Palladium is a steel white ductile metallic element. It is stable in air and resistant to attack by most reagents. It is soluble in a mixture of hydrochloric and nitric acids. Palladium and its alloys are used as

catalysts in the petrochemical and automotive industries. Used in electronics and in dental applications. Purified metals between 99.9% and 99.99% are available for chemical use as foil, granules, rod or wire. HUMAN EXPOSURE: The general population is primarily exposed to palladium through dental alloys, jewlery, food and emissions from automobile catalytic converters. There are limited data concerning the distribution of palladium from dental resorations in human tissues or fluids. Populations at special risk of palladium allergy include people with known nickel allergy. ANIMAL STUDIES: Six months after a single intratracheal application of palladium dust, several histopathological signs of inflammation were noted in the lungs of rats. Daily oral administration of palladium dust over 6 months resulted in changes in several blood and urine parameters. Palladium applied in its metallic form showed no or little cytotoxicity.[

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
- No data available.

12.2 Persistence and degradability
- No data available.

12.3 Bioaccumulative potential
- No data available.

12.4 Mobility in soil
- No data available.

12.5 Results of PBT and vPvB assessment
- Not available.

12.6 Endocrine disrupting properties
- No data available.

12.7 Other adverse effects
- No data available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product:
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains or the environment.

Contaminated packaging:
- Dispose of as unused product or according to local regulations.

Waste code:
- Not available.

SECTION 14: Transport information

SECTION 14: Transport information

14.1 UN number
- Not available.

14.2 UN proper shipping name
- Not available.

14.3 Transport hazard class(es)
- Not available.

14.4 Packing group
- Not available.

14.5 Environmental hazards
- Not available.

14.6 Special precautions for user
- Avoid dust release during transport. Keep container tightly closed.

14.7 Maritime transport in bulk according to IMO instruments
- Not available.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Regulatory status/inventory listings: Not available.
- GHS classification: Not available.

15.2 Chemical safety assessment
- No data available.

SECTION 16: Other information

SECTION 16: Other information

Product identification:
- Product name: Palladium on calcium carbonate (10%)
- Catalog No.: CS-O-14011
- CAS No.: 7440-05-3
- Category: Catalyst
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Revision information:
- Revision date: Not available.
- Version: Not available.

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