

Safety Data Sheet

Palladium Chloride

Created: Sep. 24. 2010

Revised: Nov. 01. 2016

1. Chemical Articles and Company Information

Name of Chemical Article:	Palladium (II) Chloride
Company Name:	Toyo Chemical Industrial Co., Ltd.
Address:	2-26-13 Naka-Izumi, Komae-City, Tokyo
Tel.:	+81-3-3489-5152
Fax:	+81-3-3488-1706
Emergency Contact:	As above
Recommended Applications and Use Restrictions:	Palladium plating and catalysts

2. Summary of Hazards

GHS Classification All items are "Outside scope of classification" or "Cannot classify".

GHS Label Elements

Picture descriptions:



Cautionary terms:

Hazard information:

Warning

Harmful if ingested

Risk of damage to the eyes

Risk of chemical burns to skin

Suspected risk of malign influence on reproductivity or fetus

Risk of organ (blood circulatory system) damage and respiratory organ irritation

Risk of organ (lung, kidney, and blood circulatory system) damage due to long-term or repeated exposure

Risk of toxicity to aquatic life

Risk of toxicity to aquatic life forms due to long-term effects

Cautions

Safety Measures:

When using the product, do not eat, drink, or smoke.

Store away from reducing agents.

Avoid heat.

Wear protective gloves, goggles, and face mask.

Prevent contact with eyes, skin, and clothing.

Do not inhale the dust.

Avoid discharging into the environment.

Emergency Measures:

If the substance contacts the eye, irrigate with water thoroughly for several minutes. If contact lenses can be removed easily, remove and wash them.

If eye irritation persists, consult a physician and receive treatment.

If clothing is spattered, promptly remove and isolate all soiled clothing.

If the substance adheres to the skin, wash using copious amounts of soap and water.

If skin irritation occurs, consult a physician and receive treatment.

If exposed or fear exposure, consult a physician and receive diagnosis treatment.

If ingested, rinse out the mouth, and immediately consult a physician for treatment.

If you feel unwell, consult a physician to receive diagnosis and treatment.

Gather any leaks.

Storage:

Store in a well-ventilated place.

Keep container tightly closed.

Lock the storage location.

Disposal:

If discarding contents or containers, entrust to a specialized waste disposal company.

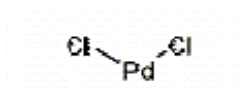
Other hazards:

Not available

3. Composition and Component Information

Single Substance or Mixture:	Single Substance
Chemical name or general name:	Palladium (II) Chloride
Another name:	-
Concentration or concentration range:	100%
Molecular formula (molecular weight):	PdCl ₂ (177.33)

Chemical characteristics
(rational or structural formula):



CAS No.:	7647-10-1
Reference numbers in gazetted list in japan(CSCL and ISHL):	1-253
Impurities and stabilization additives that contribute to the classification:	No Information

4. Emergency Measures

If inhaled:	Blow nose and gargle. If you feel unwell, consult a physician to receive diagnosis and treatment.
Adhesion to skin:	Remove soiled clothing and shoes, and thoroughly wash any adhesions or contact body parts with cold or lukewarm water. If changes in appearance manifest, or pain continues, consult a physician.
Contact with eyes:	Rinse cautiously with water for several minutes. Continue rinsing. Immediate medical attention is required.
If ingested:	Rinse mouth. If you feel unwell, consult a physician to receive diagnosis and treatment.
The most important sign of an acute symptom and the tardive symptom and symptom:	No information
Protection of people implementing emergency measures:	No information
Special precautions for physicians:	No information

5. Measures during Fires

Flame retardants:	Copious amounts of water, and dry sand
Extinguishants that must not be used:	No information
Characteristic dangers:	There is a risk of exacerbating fires. Strong heat causes harmful gas to be emitted, so wear protective equipment when firefighting.
Characteristic extinguishing methods:	Promptly move containers in the vicinity of the fire to a safe location. If moving is not possible, scatter water on the containers and their surroundings to cool.
Protection of firefighters:	Fight fire from upwind, and avoid inhaling poisonous gasses, etc. Wear respiratory protectors depending on the circumstances. Keep upwind all personnel unnecessary to disaster prevention activities.

6. Measures during Leaks

Physical precautions, protective equipment, and measures during emergencies:	The worker wears a tool for appropriate protection (in item of "8. Exposure Avoidance and Protection Measures" reference) and avoids clothes, contact and inhalation to skin. When working, wear protective equipment to prevent the inhalation of spattered adhesions, dust, and gas, etc., and work from upwind.
Environmental precautions:	Avoid discharging into the environment.
Methods and materials for contamination and methods and materials for cleaning up:	No information

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Collection and neutralization:	No information
Preventing secondary accidents:	Prevent inflow to drainage ditches, sewers, cellars, or sealed locations.

7. Handling and Storage Precautions

Handling

Technical measures: Install local exhausters, and eye and hand washing facilities, in the handling locations. Ideally, handle in locations with local exhausters and overall ventilators.

Wear protective gloves, goggles, and face mask.

Precautions for safe handling: Prior to use, obtain an instruction book.
Do not handle until all safety precautions and readings are understood.
When using the product, do not eat, drink, or smoke.
Prevent contact with eyes, skin, and clothing.
Wash hands thoroughly after handling.
Avoid discharging into the environment.

Contact evasion: In item of "10. Stability and Reactivity" reference.

Storage

Safe storage conditions: Lock the storage location.
Store in a well-ventilated, cool location.
Technical measures: No information

Container and packing materials: Airtight containers (glass, polyethylene, etc.)

8. Exposure Avoidance and Protection Measures

Control concentration: No information

Tolerable concentration:

Japan Society for Occupational Health (2015) No information

ACGIH (2013) No information

Equipment measures: Install local exhausters, and eye and hand washing facilities, in the handling locations.

Protective Equipment

Respirator: Wear suitable respirator. (Breathing apparatuses, etc.)

Hand protective equipment: Wear protective gloves. (Rubber gloves, etc.)

Eye protective equipment: Wear eye protective equipment. (Goggles, etc.)

Skin and body protective equipment: Wear protective face equipment, clothing, and protective shoes, etc. (Protective clothing, protective boots, etc.)

9. Physical and Chemical Properties

Physical properties

Shape: Absorbent powder

Color: Dark red or dark brown

Odor: Slight hydrochloric acid odor

Odor threshold value: No information

pH: No information

Melting point and coagulation point: No information

Boiling point, initial boiling point, and boiling range: No information

Ignition point: No information

Vaporization speed (butyl acetate=1): No information

Burnability (solids and gas): No information

Explosion range: No information

Vapor pressure: 920°C, 1 atmosphere

Vapor density (vapor=1): No information

Specific gravity (density): 4

Solubility: No information

n-Octanol/water partition coefficient: No information

Spontaneous ignition temperature: No information

Dissolution temperature: Sublimates and dissolves at 600°C

Viscosity: No information

10. Stability and Reactivity

Reactivity:	No information
Stability:	May be stable in storage according to laws and regulations and the handling.
Possibility of harmful reactions:	Reduced to metal palladium by a strongly reducing agent.
Conditions to be avoided:	Heat and reducing agents
Incompatible substances:	Reducing substances
Hazardous degradable organisms:	Hydrogen chlorides

11. Harmfulness Information

Acute toxicity:	
Oral:	There are reports that when PdCl ₂ is given to mice as drinking water, growth is retarded, and malignant lung tumors are caused, but cannot classify it because it is lacking in data.
Pass; skin:	Rat IV: LD50 20mg/kg, but cannot classify it because it is lacking in data.
Inhalation:Gas	The definition of GHS is a solid.
Inhalation:Steam	The definition of GHS is a solid.
Inhalation:Dust,Mist	No data available
Skin corrosiveness and irritation:	Rabbits: Skin; 100mg/24hr mild, but cannot classify it because it is lacking in data.
Critical injury to eyes and eye irritation:	No data available
Respiratory organ sensitivity:	No data available
Skin sensitivity:	No data available
Germ-cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
Specific marker organs and systemic toxicity (single exposure):	No data available
Specific marker organs and systemic toxicity (repeated exposure):	No data available
Inhalable respiratory organ harmfulness:	No data available

12. Environmental Impact Information

Ecotoxicity	
Aquatic environmental harm (acute hazard):	No data available
Aquatic environmental harm (long-term hazard):	No data available
Hazard to the ozone layer :	The materials concerned are not listed by an affiliated book of Montreal Protocol.

13. Disposal Precautions:

Residual waste:	Collect the palladium using a roasting and reduction process, or an oxide precipitation process. During roasting, gasses containing harmful substances are emitted, so do not roast using an incinerator without cleaning equipment. (Ideally, entrust to a specialized company.)
Dirty containers and packaging:	Suitably process containers according to the relevant regulations and local government standards. When disposing of empty containers, make sure to discard the contents completely.

14. Shipping Precautions

International Regulations	
UN No.:	-
Proper Shipping Name:	-
Class:	-
Sub Risk:	-
Packing Group:	-
Marine Pollutant:	-
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	No

Japanese Regulations

Land Regulations Information:

Maritime Regulations Information

Aviation Regulations Information

Special Safety Measures

Obey Poisonous and Deleterious Substances Control Law and Fire Services Act regulations.

Obey Ship Safety Law regulations.

Obey the Civil Aeronautics Law.

During transport, avoid direct sunlight, and load so that the containers are not damaged, corroded, or leaking, and secure the load to prevent toppling.

Do not transport together with food or livestock feed.

Yellow card display is required during transport.

15. Applicable Laws

There are not the applicable laws and ordinances.

16. Other Information

Bibliography:

GHS classification results database: NITE website

GHS model SDS information: JISHA website

Reagent guidebook (Revised 2003)

Collection of Poisonous Materials Standard Notifications

Dictionary of Chemistry (1987 30th printing: Kyoritsu Shuppan)

16112 Chemical Products (2012 The Chemical Daily)

***Caution:**

Hazard and harmfulness evaluations were created using the data and information available at the current time, but is not necessarily thorough, so handle with care.

Further, the data and evaluations described herein are not in any way guaranteed. The descriptions refer to normal handling, so for special handling, first implement safety measures conforming to the new application and methods of use.

This SDS is translated into English.(Original version is Japanese)