

SAFETY DATA SHEET

Preparation Date: 10/24/2016

Revision Date: Not Applicable

Revision Number: Not Applicable

1. IDENTIFICATION

Product identifier

Product code: P1912
Product Name: PLATINUM (IV) CHLORIDE

Other means of identification

Synonyms: Platinum chloride (PtCl₄) (6Cl,7Cl,8Cl)
 Platinum chloride (PtCl₄), (SP-4-1) (9Cl)
 Platinum tetrachloride
 Platinum(IV) tetrachloride
 Tetrachloroplatinum

CAS #: 13454-96-1
RTECS # TP2275500
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: For manufacturing or laboratory use only.
Uses advised against Not for food or drug use.

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000.

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300

Contact Person: Martin LaBenz (West Coast)

Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1

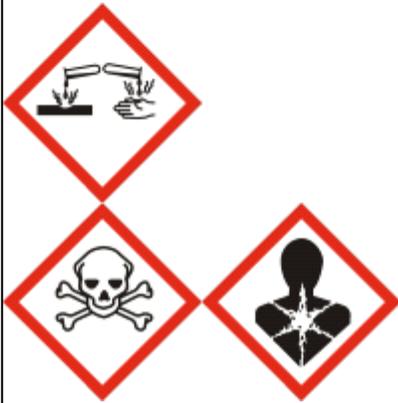
Label elements

Danger

Hazard statements

Toxic if swallowed

Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing must not be allowed out of the workplace
Wear respiratory protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Platinum (IV) Chloride	13454-96-1	100

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you

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have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact: Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact: Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately. Toxic if swallowed.

Most important symptoms and effects, both acute and delayed

Symptoms Severe skin and eye irritation or burns. Burning sensation in the mouth and stomach. Can burn mouth, throat, and stomach. May cause perforation of the digestive tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO₂). Water spray, mist, or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Hydrogen Chloride Gas. Platinum oxides.

Specific hazards: May be combustible at high temperatures

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent)

and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing dust.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe vapors/dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:

Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Platinum (IV) Chloride	13454-96-1	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Platinum (IV) Chloride	13454-96-1	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Platinum (IV) Chloride	13454-96-1	None	None

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Face-shield

Skin and body protection: Gloves. Long sleeved clothing. Chemical resistant apron.

Respiratory protection: Wear respirator with dust filter. or. Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: Powder.	Color: Brown.
Odor: No information available.	Taste No information available.	Formula: PtCl ₄
Molecular/Formula weight: 336.9	Flammability: No information available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): 370°C (698°F) (Decomposition)	Decomposition temperature(°C/°F): 370°C (698°F)
Boiling point/range(°C/°F): No information available	Bulk density: No information available	Density (g/cm³): 4.303
Specific gravity: No information available	pH: No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available

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Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
No information available

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Solubility in water: 587 g/l at 25°C
(77°F)

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Avoid dust formation. Incompatible materials.

Incompatible Materials: Strong oxidizing agents

Hazardous decomposition products: Hydrogen chloride gas. Platinum oxides. Chlorine.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Eyes. Ingestion. Inhalation.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Component Information

Platinum (IV) Chloride	
CAS-No.	13454-96-1

LD50/oral/rat = = 276 mg/kg Oral LD50 Rat

LD50/oral/mouse = No information available

LD50/dermal/rabbit = No information available

LD50/dermal/rat = = 276 mg/kg Oral LD50

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = No information available

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LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Corrosive. Contact causes severe skin irritation and possible burns. Can cause burning pain, inflammation and blisters. May cause allergic skin reaction.

Eye Contact: Causes severe eye irritation and possible burns. Corrosive to the eyes and may cause severe damage including blindness. Can cause severe injury. May cause irreversible eye damage.

Inhalation May cause irritation of respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause chemical burns to the respiratory tract. Symptoms may include coughing and wheezing. It may cause pulmonary edema.

Ingestion Toxic if swallowed. Causes digestive (gastrointestinal) tract irritation. Causes digestive or gastrointestinal tract burns. Corrosive to the mouth, throat, and stomach. May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available.

Sensitization: May cause sensitization by inhalation and skin contact.

Mutagenic Effects: Experiments with bacteria have shown mutagenic effects

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Platinum (IV) Chloride	13454-96-1	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available
Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available.
Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Platinum (IV) Chloride	13454-96-1	None	None	None	None

14. TRANSPORT INFORMATION

DOT
UN-No: UN2923
Proper Shipping Name: Corrosive solids, toxic, n.o.s. (platinum(IV) chloride)
Hazard Class: 8
Subsidiary Class 6.1
Packing group: III
Emergency Response Guide Number 154
Marine Pollutant No data available

DOT RQ (lbs): No information available
Special Provisions IB8, IP3, T1, TP33
Symbol(s): [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.
Description: UN2923, Corrosive solids, toxic, n.o.s., 8 (6.1), III

TDG (Canada)
UN-No: UN2923
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN2923, Corrosive solid, toxic, n.o.s., 8 (6.1), III

ADR
UN-No: UN2923
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Packing Group: III
Subsidiary Risk: No information available
Special Provisions 274
Description: UN2923, Corrosive solid, toxic, n.o.s., 8 (6.1), III

IMO / IMDG
UN-No: UN2923
Proper Shipping Name: Corrosive solids, toxic, n.o.s. (platinum(IV) chloride)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No information available
EMS: F-A
Special Provisions 223, 274
Description UN2923, Corrosive solid, toxic, n.o.s. (PLATINUM (IV) CHLORIDE), 8 (6.1), III

RID
UN-No: UN2923
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Special Provisions 274
Description: UN2923, Corrosive solid, toxic, n.o.s., 8 (6.1), III

ICAO
UN-No: UN2923
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: UN2923, Corrosive solid, toxic, n.o.s., 8 (6.1), III
Special Provisions A3

IATA
UN-No: UN2923
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available

Packing Group: III
ERG Code: 8P
Special Provisions No information available
Description: UN2923, Corrosive solid, toxic, n.o.s., 8 (6.1), III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Platinum (IV) Chloride	13454-96-1	Present	Present KE-28828	Present	Present (1)-1145	Present	Present	Present 236-645-1

U.S. Regulations

Platinum (IV) Chloride

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 2689

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Platinum (IV) Chloride	13454-96-1	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Platinum (IV) Chloride	13454-96-1	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Platinum (IV) Chloride	13454-96-1	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

- D1B Toxic materials
- D2B Toxic materials
- D2A Very toxic materials
- E Corrosive material

Components
Platinum (IV) Chloride

WHIMHAZ
D2B

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS

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contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Platinum (IV) Chloride	0.1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Platinum (IV) Chloride	13454-96-1	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Platinum (IV) Chloride	13454-96-1	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Platinum (IV) Chloride	13454-96-1	Not listed

EU Classification

R-phrase(s)

R22 - Harmful if swallowed.
R34 - Causes burns.
R39 - Danger of very serious irreversible effects.
R42 - May cause sensitization by inhalation.
R43 - May cause sensitization by skin contact.

S -phrase(s)

S22 - Do not breathe dust.
S24 - Avoid contact with skin.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 - After contact with skin, wash immediately with plenty of water
S37 - Wear suitable gloves.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Platinum (IV) Chloride	13454-96-1		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful.
C - Corrosive.



16. OTHER INFORMATION

Preparation Date: 10/24/2016
Revision Date: Not Applicable
Prepared by: Roumann Pangilinan

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may

pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet