

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
Product Identifier

Perihal Produk: **CIS-DIKLORODIAMINAPLATINUM(II), 99.99%**
 Product Description: **cis-Dichlorodiamineplatinum(II)**
 Cat No. : 193760000; 193762500; 193760010; 193760050
 Synonyms: Cisplatin; cis-DDP
 CAS No 15663-27-1
 Molecular Formula Cl₂ H₆ N₂ Pt

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.
 Uses advised against No Information available

Company

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 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

SECTION 2: HAZARDS IDENTIFICATION
Classification of the substance or mixture

| | |
|--|--------------------|
| Acute oral toxicity | Category 2 (H300) |
| Acute dermal toxicity | Category 4 (H312) |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 (H332) |
| Skin Corrosion/Irritation | Category 2 (H315) |
| Serious Eye Damage/Eye Irritation | Category 1 (H318) |
| Carcinogenicity | Category 1B (H350) |
| Specific target organ toxicity - (single exposure) | Category 3 (H335) |

Label Elements


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Signal Word

Danger

Hazard Statements

H300 - Fatal if swallowed
H312 + H332 - Harmful in contact with skin or if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer

Precautionary Statements

Prevention

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
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 present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P330 - Rinse mouth
P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards

This product does not contain any known or suspected endocrine disruptors
Toxic to terrestrial vertebrates

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|-----------|------------|----------|
| Cisplatin | 15663-27-1 | >95 |

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

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| | |
|---|--|
| Ingestion | Do NOT induce vomiting. Call a physician or poison control center immediately. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give 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. |
| Self-Protection of the First Aider | Use personal protective equipment as required. |

Most important symptoms and effects, both acute and delayed

Causes eye burns. Causes severe eye damage. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Explosive properties.

Hazardous Combustion Products

Nitrogen oxides (NO_x), Platinum oxide, Hydrogen chloride gas.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

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SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

| Component | Malaysia | ACGIH TLV | OSHA PEL |
|-----------|----------|------------------------------|--|
| Cisplatin | | TWA: 0.002 mg/m ³ | (Vacated) TWA: 0.002 mg/m ³ |

| Component | European Union | The United Kingdom | Germany |
|-----------|----------------|---|---------|
| Cisplatin | | STEL: 0.006 mg/m ³ 15 min TWA: 0.002 mg/m ³ 8 hr | |

Exposure Controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

Skin and body protection

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Recommended Filter type:

Particulates filter conforming to EN 143

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

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Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|----------------|--------------------------|
| Appearance | Yellow-orange |
| Physical State | Powder Solid |
| Odor | Odorless |
| Odor Threshold | No data available |
| pH | No information available |

| | |
|---------------------|--------------------------|
| Melting Point/Range | 270 °C / 518 °F |
| Softening Point | No data available |
| Boiling Point/Range | No information available |
| Flash Point | No information available |

Method - No information available

| | |
|--------------------------|--------------------------|
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Explosion Limits | No data available |

Solid

| | |
|------------------------------|--------------------------|
| Vapor Pressure | No data available |
| Vapor Density | Not applicable |
| Specific Gravity / Density | 3.738 |
| Bulk Density | No data available |
| Water Solubility | 0.25g/100ml (25°C) |
| Solubility in other solvents | No information available |

Solid

Partition Coefficient (n-octanol/water)

| | |
|---------------------------|--------------------------|
| Autoignition Temperature | Not applicable |
| Decomposition Temperature | No data available |
| Viscosity | Not applicable |
| Explosive Properties | No information available |
| Oxidizing Properties | No information available |

Solid

| | |
|-------------------|--------------|
| Molecular Formula | Cl2 H6 N2 Pt |
| Molecular Weight | 300.05 |

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known, based on information available.

Chemical Stability

Light sensitive. Moisture sensitive.

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Possibility of Hazardous Reactions

Hazardous Polymerization
Hazardous Reactions

No information available.
None under normal processing.

Conditions to Avoid

Incompatible products. Excess heat. Exposure to moisture. Exposure to light.

Incompatible Materials

Strong oxidizing agents. Reducing Agent.

Hazardous Decomposition Products

Nitrogen oxides (NOx). Platinum oxide. Hydrogen chloride gas.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Product Information

(a) acute toxicity;
Oral Category 2
Dermal Category 4
Inhalation Category 4

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|------------------|-------------|-----------------|
| Cisplatin | 25.8 mg/kg (Rat) | - | - |

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available
No information available

(e) germ cell mutagenicity; No data available

Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment

(f) carcinogenicity; Category 1B
May cause cancer. The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component | EU | UK | Germany | IARC |
|-----------|----|----|---------|----------|
| Cisplatin | | | | Group 2A |

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| | |
|--|--|
| (g) reproductive toxicity; | No data available |
| (h) STOT-single exposure; | Category 3 |
| Results / Target organs | Respiratory system. |
| (i) STOT-repeated exposure; | No data available |
| Target Organs | None known. |
| (j) aspiration hazard; | Not applicable Solid |
| Symptoms / effects, both acute and delayed | Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing. |
| Endocrine Disrupting Properties | Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. |

SECTION 12: ECOLOGICAL INFORMATION

| | |
|--|--|
| <u>Ecotoxicity effects</u> | May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system. |
| <u>Persistence and degradability</u> | Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary based on information available, May persist. |
| Persistence | Not relevant for inorganic substances. |
| Degradability | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |
| Degradation in sewage treatment plant | |
| <u>Bioaccumulative potential</u> | May have some potential to bioaccumulate |
| <u>Mobility in soil</u> | The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils. |
| <u>Endocrine Disruptor Information</u> | This product does not contain any known or suspected endocrine disruptors |
| <u>Other adverse effects</u> | No information available |

SECTION 13: DISPOSAL CONSIDERATIONS

| | |
|-------------------------------------|---|
| <u>Waste treatment methods</u> | |
| Waste from Residues/Unused Products | Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations |
| Contaminated Packaging | Dispose of this container to hazardous or special waste collection point. |
| Other Information | Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains Do not flush to sewer |

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SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

UN-No UN3288
Hazard Class 6.1
Packing Group II
Proper Shipping Name Toxic solid, inorganic, n.o.s.

Road and Rail Transport

UN-No UN3288
Hazard Class 6.1
Packing Group II
Proper Shipping Name Toxic solid, inorganic, n.o.s.

IATA

UN-No UN3288
Hazard Class 6.1
Packing Group II
Proper Shipping Name Toxic solid, inorganic, n.o.s.

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

| Component | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | IECSC | AICS | KECL |
|-----------|-----------|------|-----|-------|------|------|-------|------|------------|
| Cisplatin | 239-733-8 | X | - | - | - | | X | - | KE-05-0360 |

National Regulations

Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

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WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Revision Date

21-Mar-2025

Revision Summary

SDS sections updated.

In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

Disclaimer

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