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

1.1 Product identifier
Trade name Palladium(II) chloride

Stock number: 43085
CAS Number: 7647-10-1
EC number: 231-596-2

1.2 Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Thermo Fisher (Kandel) GmbH
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
Informing department: Product safety Tel +49 (0) 7275 988687-0

1.4 Emergency telephone number:
Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

GHS05 corrosion
Met. Corr. 1 H290 May be corrosive to metals.
Eye Dam. 1 H318 Causes serious eye damage.

GHS07
Skin Sens. 1 H317 May cause an allergic skin reaction.

Other hazards that do not result in classification: No information known.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008. The substance is classified and labelled according to the CLP regulation.

Hazard pictograms
GHS05 GHS07

Signal word Danger
Hazard statements
H290 May be corrosive to metals.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements
P280 Wear protective gloves / eye protection / face protection.
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/doctor.
P406 Store in corrosive resistant container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances
CAS# Designation:
7647-10-1 Palladium(II) chloride
Concentration: ≤100%
Identification number(s):
EC number: 231-596-2

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.

After skin contact
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing
Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed
Causes serious eye damage.
May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.
Trade name: Palladium(II) chloride

5.2 Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
- Hydrogen chloride (HCl)
- Palladium oxide

5.3 Advice for firefighters

- Protective equipment: Wear self-contained breathing apparatus.
- Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Wear protective equipment. Keep unprotected persons away.
- Ensure adequate ventilation.

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up: Collect mechanically.

6.4 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 information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Keep containers tightly sealed.
- Store in cool, dry place in tightly closed containers.
- Ensure good ventilation/exhaustion at the workplace.
- Information about protection against explosions and fires: The product is not flammable.

7.2 Conditions for safe storage, including any incompatibilities

- Storage
- Requirements to be met by storerooms and containers: No special requirements.
- Information about storage in one common storage facility:
- Store away from oxidising agents.
- Store away from metals.
- Further information about storage conditions:
- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed containers.

7.3 Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:
- Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters

- MAK (Germany) vgl.Abschn.IIb

8.2 Exposure controls

- Personal protective equipment
- General protective and hygienic measures
- The usual precautionary measures should be adhered to in handling the chemicals.
- Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

- Recommended filter device for short term use
- Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

- Protection of hands:
- Check protective gloves prior to each use for their proper condition.
- 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 manufacturer.

- Glove thickness: 0.11 mm
- Eye protection: Tightly sealed safety glasses.
- Face protection: Safety glasses with side shields / NIOSH (US) or EN 166(EU)
- Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- General Information
- Appearance: Crystalline or powder
- Odour: Odourless
- Odour threshold: Not determined.
- pH-value: Not applicable.
- Change in condition
- Melting point/freezing point: 675 °C (dec)
- Initial boiling point and boiling range: Not determined
- Sublimation temperature / start: Not determined
- Inflammability (solid, gaseous): Not determined
- Ignition temperature: Not determined
- Decomposition temperature: Not determined
- Self-ignitability: Not determined.
- Explosive properties: Not determined.
Trade name Palladium(II) chloride

Critical values for explosion:
Lower: Not determined
Upper: Not determined

Steam pressure: Not applicable.
Density at 20 °C: 4 g/cm³
Relative density: Not determined.
Vapour density: Not applicable.
Evaporation rate: Not applicable.
Solubility in / Miscibility with Water: Insoluble
Partition coefficient: n-octanol/water: Not determined.
Viscosity:
   dynamic: Not applicable.
   kinematic: Not applicable.

9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No information known.
10.2 Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions Reacts with strong oxidising agents
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials:
   Oxidising agents
   Metals
   Palladium oxide

10.6 Hazardous decomposition products:
   Hydrogen chloride (HCl)
   Palladium oxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects
   Acute toxicity The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for classification:
   Oral [LD50] 2704 mg/kg (rat)
Skin irritation or corrosion: May cause irritation
Eye irritation or corrosion: Causes serious eye damage.
Causes serious eye damage.
Respiratory or skin sensitisation
   May cause an allergic skin reaction.
   May cause an allergic skin reaction.
   Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
   Carcinogenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.
   No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
   Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
   Specific target organ system toxicity - repeated exposure: No effects known.
   Specific target organ system toxicity - single exposure: No effects known.
   Aspiration hazard: No effects known.
   Additional toxicological information:
   To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity
   Aquatic toxicity: No further relevant information available.
   12.2 Persistence and degradability: No further relevant information available.
   12.3 Bioaccumulative potential: No further relevant information available.
   12.4 Mobility in soil: No further relevant information available.
   Additional ecological information:
   General notes: Generally not hazardous for water.
   Avoid transfer into the environment.
   Results of PBT and vPvB assessment:
   PBT: Not applicable.
   vPvB: Not applicable.
   Additional adverse effects: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
   Recommendation: Hand over to disposers of hazardous waste.
   Must be specially treated under adherence to official regulations.
   Consult state, local or national regulations for proper disposal.
   Cleaned packagings: Recommendation: Disposal must be made according to official regulations.
   Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number
   ADR, ADN, IMDG, IATA: Not applicable

ADR, ADN, IMDG, IATA: Not applicable

14.3 Transport hazard class(es)
   ADR, ADN, IMDG, IATA: Not applicable

14.5 Environmental hazards: Not applicable.
14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is listed.
Standard for the Uniform Scheduling of Medicines and Poisons Substance is not listed.

Directive 2012/18/EU
Named dangerous substances - ANNEX I Substance is not listed.

National regulations
Information about limitation of use:
Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Classification according to VbF: Not applicable

Water hazard class: Generally not hazardous for water.

Other regulations, limitations and prohibitive regulations
ELINCS (European List of Notified Chemical Substances) Substance is not listed.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:
ADIR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
ATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety and Health Administration (USA)
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
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