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

1.1. Product identifier

Product form : Mixture
Product name : PAL 5, 10, 15, 25 (Powder)
Product code : PAL 5, 10, 15, 25 (Powder)
Type of product : Alloy

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only
Use of the substance/mixture : Brazing
Function or use category : Welding, cutting, heating and brazing.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

The Prince & Izant Companies
12999 Plaza Drive
44130 Cleveland, Ohio - USA
T 001-216-362-7000 - F 001-216-362-7456
support@princeizant.com - www.princeizant.com

1.4. Emergency telephone number

Emergency number : Global: +44 1865 407333 (NCEC)
USA: +1 202 464 2554 (NCEC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hazardous to the aquatic environment — Acute Hazard, Category 1  H400
Full text of H statements : see section 16

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP) :

Signal word (CLP) : Warning
Hazard statements (CLP) : H400 - Very toxic to aquatic life
Precautionary statements (CLP) : P273 - Avoid release to the environment
P391 - Collect spillage
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
Child-resistant fastening : No
Tactile warning : No

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Very toxic to aquatic life.
Other hazards not contributing to the classification : None under normal conditions.
SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
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</thead>
<tbody>
<tr>
<td>Silver Powder</td>
<td>(CAS No) 7440-22-4</td>
<td>40 - 80</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>(EC no) 231-131-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper Powder</td>
<td>(CAS No) 7440-50-8</td>
<td>20 - 40</td>
<td>Aquatic Acute 1, H400</td>
</tr>
<tr>
<td></td>
<td>(EC no) 231-159-6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell.
First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
First-aid measures after skin contact : Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation.
Symptoms/injuries after skin contact : Repeated or prolonged contact may cause slight irritation to the skin.
Symptoms/injuries after eye contact : Dust from this product may cause eye irritation.
Symptoms/injuries after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry powder. Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : The product is not flammable.
Explosion hazard : Product is not explosive.
Reactivity in case of fire : Not known.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : No special measures required.
Firefighting instructions : Use extinguishing media appropriate for surrounding fire.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid release to the environment.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection.
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust, fume.
Measures in case of dust release : Where excessive dust may result, use approved respiratory protection equipment.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Wear suitable protective clothing, gloves and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection". Avoid contact with skin and eyes. Do not breathe Dust, Fumes.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment: Collect spillage.
Methods for cleaning up: Carefully shovel or sweep up spilled material and place in suitable container. This material and its container must be disposed of in a safe way, and as per local legislation. Minimize generation of dust. Notify authorities if product enters sewers or public waters.
Other information: This material and its container must be disposed of as hazardous waste.

6.4. Reference to other sections
For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13: "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Always wash hands after handling the product. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Ensure adequate ventilation, especially in confined areas.
Storage conditions: Store in a well-ventilated place. Keep cool.
Incompatible materials: Acetylene, ammonia, ammonium nitrate, aqua regia, dioxane, ethylene oxide, chlorine trifluoride, halogens, hydrogen peroxide, hydrazine, hydrazine, mononitrate, hydrazoic acid, hydroxylamine, hydrogen sulfide, performic acid, phosphorus, selenium, sulfur, titanium plus potassium chloride. Bromates, chlorates and iodates of alkali and alkali earth metals.
Storage area: Store in a well-ventilated place.
Packaging materials: Keep only in original container.

7.3. Specific end use(s)
Other hot work operations with metals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>Local name</th>
<th>EU IOELV TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver Powder (7440-22-4)</td>
<td>Silver, metallic</td>
<td>0.1 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Materials for protective clothing: Wear suitable protective clothing
Hand protection: Protective gloves
Eye protection: Wear tight fitting safety glasses or face shield
Skin and body protection: Wear suitable protective clothing
Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
Appearance: Silver-grey. Metallic powder.
Colour: Silver.
Odour: Odourless.
PAL 5, 10, 15, 25 (Powder)
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Odour threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : Not applicable
Boiling point : No data available
Flash point : Not applicable
Auto-ignition temperature : Not applicable
Decomposition temperature : No data available
Flammability (solid, gas) : Non flammable
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : Not applicable
Solubility : insoluble in water.
Log Pow : No data available
Viscosity, kinematic : Not applicable
Viscosity, dynamic : No data available
Explosive properties : Product is not explosive.
Oxidising properties : Oxidising solids Not applicable.
Explosive limits : Not applicable

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
Acetylene, ammonia, ammonium nitrate, aqua regia, dioxane, ethylene oxide, chlorine trifluoride, halogens, hydrogen peroxide, hydrazine, hydrazine, mononitrate, hydrazic acid, hydroxylamine, hydrogen sulfide, performic acid, phosphorus, selenium, sulfur, titanium plus potassium chlorate. Bromates, chlorates and iodates of alkali and alkali earth metals.

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure) : Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure) : Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)
PAL 5, 10, 15, 25 (Powder)
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 12: Ecological information
12.1. Toxicity
Ecology - general : Very toxic to aquatic life.
Ecology - water : Very toxic to aquatic life.

12.2. Persistence and degradability
**PAL 5, 10, 15, 25 (Powder)**
Persistence and degradability
The product is not biodegradable.

12.3. Bioaccumulative potential
**PAL 5, 10, 15, 25 (Powder)**
Bioaccumulative potential : Not established.

12.4. Mobility in soil
**PAL 5, 10, 15, 25 (Powder)**
Ecology - soil : Not established.

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
Other adverse effects : None known.
Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector’s sorting instructions.
Waste disposal recommendations : Avoid release to the environment. Discharging into rivers and drains is forbidden. Dispose of contents/container to a hazardous or special waste collection point.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : 3077
UN-No. (IMDG) : 3077
UN-No. (IATA) : 3077
UN-No. (ADN) : 3077
UN-No. (RID) : 3077

14.2. UN proper shipping name
Proper Shipping Name (ADR) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (IATA) : Environmentally hazardous substance, solid, n.o.s.
Proper Shipping Name (ADN) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (RID) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport document description (ADR) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver Powder(7440-22-4)), 9, III, (E)
Transport document description (IMDG) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : 9
Danger labels (ADR) : 9
### 14.4. Packing group

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<tr>
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<td>: III</td>
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<td>Packing group (IATA)</td>
<td>: III</td>
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<tr>
<td>Packing group (ADN)</td>
<td>: III</td>
</tr>
<tr>
<td>Packing group (RID)</td>
<td>: III</td>
</tr>
</tbody>
</table>

### 14.5. Environmental hazards

- Dangerous for the environment : Yes
- Marine pollutant : Yes
- Other information : No supplementary information available

### 14.6. Special precautions for user

- **Overland transport**
  - Classification code (ADR) : M7
  - Special provisions (ADR) : 274, 335, 601, 375
  - Limited quantities (ADR) : 5kg
  - Excepted quantities (ADR) : E1
  - Packing instructions (ADR) : P002, IBC08, LP02, R001
  - Special packing provisions (ADR) : PP12, B3
  - Mixed packing provisions (ADR) : MP10
PAL 5, 10, 15, 25 (Powder)
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Portable tank and bulk container instructions (ADR) : T1, BK1, BK2
Portable tank and bulk container special provisions (ADR) : TP33
Tank code (ADR) : SGAV, LGBV
Vehicle for tank carriage : AT
Transport category (ADR) : 3
Special provisions for carriage - Packages (ADR) : V13
Special provisions for carriage - Bulk (ADR) : VC1, VC2
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13
Hazard identification number (Kemler No.) : 90
Orange plates :

Tunnel restriction code (ADR) : E

- Transport by sea
Special provisions (IMDG) : 274, 335, 966, 967
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
Special packing provisions (IMDG) : PP12
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1, BK1, BK2, BK3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Stowage category (IMDG) : A
Stowage and segregation (IMDG) : When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
MFAG-No : 171

- Air transport
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y956
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 956
PCA max net quantity (IATA) : 400kg
CAO packing instructions (IATA) : 956
CAO max net quantity (IATA) : 400kg
Special provisions (IATA) : A97, A158, A179, A197
ERG code (IATA) : 9L

- Inland waterway transport
Classification code (ADN) : M7
Special provisions (ADN) : 274, 335, 61
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T* B**
Equipment required (ADN) : PP, A
Number of blue cones/lights (ADN) : 0
Additional requirements/Remarks (ADN) : * Only in the molten state. ** For carriage in bulk see also 7.1.4.1. ** * Only in the case of transport in bulk.

- Rail transport
Classification code (RID) : M7
Special provisions (RID) : 274, 335, 601
Limited quantities (RID) : 5kg
PAL 5, 10, 15, 25 (Powder)
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Excepted quantities (RID)</th>
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<tr>
<td>Packing instructions (RID)</td>
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<tr>
<td>Special packing provisions (RID)</td>
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<tr>
<td>Portable tank and bulk container instructions (RID)</td>
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<tr>
<td>Portable tank and bulk container special provisions (RID)</td>
<td>TP33</td>
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<tr>
<td>Tank codes for RID tanks (RID)</td>
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<td>Transport category (RID)</td>
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<tr>
<td>Special provisions for carriage – Packages (RID)</td>
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<td>Special provisions for carriage – Bulk (RID)</td>
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<tr>
<td>Special provisions for carriage - Loading, unloading and handling (RID)</td>
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<td>Hazard identification number (RID)</td>
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</tbody>
</table>

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations
Seveso directive 96/82/EC

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information
Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Aquatic Acute 1</th>
<th>Hazardous to the aquatic environment — Acute Hazard, Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.