


**1 Identification**

- **Product identifier**
- **Trade name:** **Aries**
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Manufacture of dental prothesis
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Ivoclar Vivadent Inc.  
175 Pineview Drive, Amherst, N.Y. 14228  
USA  
Tel. +1 800 533 6825  
Fax +1 716 691 2285
  
- Ivoclar Vivadent Inc.  
1-6600 Dixie Road  
Mississauga, Ontario  
L5T 2Y2  
Canada  
Phone: +1 905 670 8499  
Fax: +1 905 670 3102
- **Information department:** Quality Assurance / Regulatory Affairs
- **Emergency telephone number:**  
24 Hour Emergency Assistance:  
Emergency-Call USA - Infotrac: 1-800-535-5053  
Emergency-Call Canada - Canutec: 1-613-996-6666
  
- General SDS Assistance:  
US: 1-800-533-6825  
Canada: 1-800-263-8182


**2 Hazard(s) identification**

- **Classification of the substance or mixture**  
Ox. Sol. 2 H272 May intensify fire; oxidizer.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.

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  - **Label elements**
  - **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
- 

GHS03



GHS07
- **Signal word** Danger
  - **Hazard statements**  
May intensify fire; oxidizer.  
Causes skin irritation.  
Causes serious eye irritation.

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### · Precautionary statements

Keep away from heat.

Take any precaution to avoid mixing with combustibles.

Wear protective gloves / eye protection / face protection.

Wear protective gloves.

Wear eye protection / face protection.

Keep/Store away from clothing/combustible materials.

Wash thoroughly after handling.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Dispose of contents/container in accordance with local/regional/national/international regulations.

### · Additional information:

Alloys do not require a label, providing they do not present a hazard to human health by inhalation, ingestion or contact with skin or to the aquatic environment in the form in which they are placed on the market.

### · Classification system:

#### · NFPA ratings (scale 0 - 4)



Health = 1

Fire = 0

Reactivity = 0

#### · HMIS-ratings (scale 0 - 4)



Health = 1

Fire = 0

Reactivity = 0

### · Other hazards

#### · Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

## 3 Composition/information on ingredients

### · Chemical characterization: Mixtures

· Description: Dental alloy

#### · Dangerous components:

7440-05-3	palladium	40-70%
7440-22-4	silver	25-30%
7440-31-5	tin	3-7%
7440-55-3	gallium	1-<3%
7440-74-6	indium	1-1.5%

## 4 First-aid measures

### · Description of first aid measures

· General information: No special measures required.

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- **After inhalation:**  
*Grinding dust: Supply fresh air; consult doctor in case of complaints.  
 In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:** *After contact with the molten product, cool rapidly with cold water.*
- **After eye contact:**  
*Grinding dust: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.  
 Mechanical effects only.*
- **After swallowing:** *Seek medical treatment.*
- **Information for doctor:**  
*Most important symptoms and effects, both acute and delayed No further relevant information available.  
 Indication of any immediate medical attention and special treatment needed  
 No further relevant information available.*

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** *The product is not flammable.*
- **Special hazards arising from the substance or mixture** *No further relevant information available.*
- **Advice for firefighters**
- **Protective equipment:** *Do not inhale explosion gases or combustion gases.*

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** *Not required.*
- **Environmental precautions:** *No special measures required.*
- **Methods and material for containment and cleaning up:** *Pick up mechanically.*
- **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 disposal information.*

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
*Extractors are required on all machines used for thermal processing or splinter removal processes.*
- **Information about protection against explosions and fires:** *No special measures required.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *None.*
- **Specific end use(s)** *No further relevant information available.*

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see item 7.*

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· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**7440-22-4 silver**

EL Short-term value: 0.03 mg/m<sup>3</sup>  
Long-term value: 0.01 mg/m<sup>3</sup>  
as Ag

EV Long-term value: 0.1 \* 0.01\*\* mg/m<sup>3</sup>  
\*metal; \*\*water-soluble compounds (as silver)

**7440-31-5 tin**

EL Long-term value: 2 mg/m<sup>3</sup>  
metal

EV Long-term value: 2 \* 0.1\*\* mg/m<sup>3</sup>  
\*metal, oxide, inorg. compds.; \*\*org. compds.: Skin

**7440-74-6 indium**

EL Long-term value: 0.1 mg/m<sup>3</sup>  
as In; ACGIH 2B

EV Long-term value: 0.1 mg/m<sup>3</sup>  
as indium

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:** Usual hygienic measures for dental practice.

· **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.

· **Protection of hands:**

Protective gloves should always be worn during mechanical and thermal processing.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

Mechanical processing:

Leather gloves

Strong gloves

Thermal processing:

Heat protection gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Always wear safety goggles during mechanical processing (grinding, sawing /cutting, drilling, milling).

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Solid

Color: White

· **Odor:** Odorless

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

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· <b>Change in condition</b>	
Melting point/Melting range:	1165–1290 °C
Boiling point/Boiling range:	Undetermined.
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density at 20 °C:</b>	10.8 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Insoluble.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· <b>Solvent content:</b>	
Solids content:	100 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal handling and storage conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** None under normal conditions of storage and use.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- Fumes or dusts generated from cutting or grinding operations may cause respiratory irritation.

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· **Carcinogenic categories**

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |                                     |   |
|-------------------------------------|---|
| · <b>UN-Number</b>                  |   |
| · <b>DOT</b>                        | NA3077  |
| · <b>TDG, ADN, IMDG, IATA</b>       | Void  |
| · <b>UN proper shipping name</b>    |   |
| · <b>TDG, ADN, IMDG, IATA</b>       | Void  |
| · <b>Transport hazard class(es)</b> |   |
| · <b>DOT</b>                        |   |
| · <b>Class</b>                      | 9 Miscellaneous dangerous substances and articles |
| · <b>Label</b>                      | 9   |
| · <b>TDG, ADN, IMDG, IATA</b>       |   |
| · <b>Class</b>                      | Void  |
| · <b>Packing group</b>              |   |
| · <b>DOT</b>                        | III   |
| · <b>TDG, IMDG, IATA</b>            | Void  |
| · <b>Environmental hazards:</b>     |   |
| · <b>Marine pollutant:</b>          | No  |

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- |  |  |
|--|--|
| <b>· Special precautions for user</b>  | Not applicable.  |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.  |
| <b>· Transport/Additional information:</b>                                       | Product is not classified as a dangerous good for transport (ADR, IMDG, IATA). |
| <b>· UN "Model Regulation":</b>  | -  |

### 15 Regulatory information

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

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

7440-22-4 silver

7440-50-8 copper

- **TSCA (Toxic Substances Control Act):**

7440-57-5 Gold

7440-22-4 silver

7440-50-8 copper

7440-06-4 platinum

7440-74-6 indium

7439-88-5 iridium

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

7440-22-4 silver

D

7440-50-8 copper

D

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: **Aries**

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- **Hazard pictograms**



GHS03 GHS07

- **Signal word** *Danger*

- **Hazard statements**

*May intensify fire; oxidizer.*

*Causes skin irritation.*

*Causes serious eye irritation.*

- **Precautionary statements**

*Keep away from heat.*

*Take any precaution to avoid mixing with combustibles.*

*Wear protective gloves / eye protection / face protection.*

*Wear protective gloves.*

*Wear eye protection / face protection.*

*Keep/Store away from clothing/combustible materials.*

*Wash thoroughly after handling.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment (see on this label).*

*If skin irritation occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

*If on skin: Wash with plenty of water.*

*Take off contaminated clothing and wash it before reuse.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **National regulations:**

- **Other regulations, limitations and prohibitive regulations**

*The product is a medical device according to the Directive 93/42/EEC.*

*This product is classified as a medical device under US and Canadian regulations and has been reviewed by the US Food and Drug Administration and Health Canada.*

- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Date of preparation / last revision** 06/23/2015 / 7

- **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*Ox. Sol. 2: Oxidising Solids, Hazard Category 2*

*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*

*Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A*

- **\* Data compared to the previous version altered.**