

## Section 1. Identification

**Product identifier** : Straight Length Wire Azurloy  
**Product code** : Not available.  
**Other means of identification** : Not available.  
**Product type** : Solid.

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

**Product use** : Dental product: Orthodontic Appliance  
This product, under the normal conditions of use, meets the definition of an "ARTICLE".  
**Area of application** : Professional applications.

**Manufacturer** : **Ormco Corporation**  
1332 S. Lone Hill Avenue  
Glendora, CA 91740-5339  
Telephone no.: 1-800-854-1741

**e-mail address of person responsible for this SDS** : OrmcoCustCare@sybrondental.com

**Emergency telephone number (with hours of operation)** : CHEMTREC® (24 hours) U.S. : 1-800-424-9300 International: +1-703-527-3887

## Section 2. Hazard identification

**Classification of the substance or mixture** : Not classified.

### GHS label elements

**Signal word** : No signal word.  
**Hazard statements** : No known significant effects or critical hazards.

### Precautionary statements

**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.

**Supplemental label elements** : Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 31.3%

**Other hazards which do not result in classification** : If dust or fumes are generated during processing (e.g., brazing, cutting, grinding, sawing, and welding) hazardous chemicals could be released.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Other means of identification** : Not available.

## Section 3. Composition/information on ingredients

Ingredient name	% (w/w)	CAS number
cobalt	41	7440-48-4
nickel	16	7440-02-0
molybdenum	8	7439-98-7
manganese	2.5	7439-96-5
silicon	1.2	7440-21-3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### Description of necessary first aid measures

- Eye contact** : No special measures are required. Get medical attention if symptoms occur.
- Inhalation** : No special measures required. Get medical attention if symptoms occur.
- Skin contact** : No special measures required. Get medical attention if symptoms occur.
- Ingestion** : If swallowed then seek immediate medical assistance.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : In case of major fire and large quantities: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : No specific fire or explosion hazard.

## Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides
- Special protective actions for fire-fighters** : In case of major fire and large quantities: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Low release. For professional use only. Handling of product in very small amounts or in situations where release is highly unlikely
- For emergency responders** : Low release. See also the information in "For non-emergency personnel".

**Environmental precautions** : No special measures are required.

### Methods and materials for containment and cleaning up

- Small spill** : No special measures required.
- Large spill** : No special measures required.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : No special measures are required.
- Advice on general occupational hygiene** : No special measures are required.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
cobalt	<p><b>CA Alberta Provincial (Canada, 4/2009).</b> 8 hrs OEL: 0.02 mg/m<sup>3</sup>, (as Co) 8 hours.</p> <p><b>CA Ontario Provincial (Canada, 7/2015).</b> TWA: 0.02 mg/m<sup>3</sup>, (as Co) 8 hours. Form: Inorganic</p> <p><b>CA British Columbia Provincial (Canada, 5/2015).</b> TWA: 0.02 mg/m<sup>3</sup>, (as Co) 8 hours.</p> <p><b>CA Quebec Provincial (Canada, 1/2014).</b> <b>Skin sensitizer.</b> TWA<sub>EV</sub>: 0.02 mg/m<sup>3</sup>, (as Co) 8 hours.</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 0.06 mg/m<sup>3</sup>, (measured as Co) 15 minutes. TWA: 0.02 mg/m<sup>3</sup>, (measured as Co) 8</p>

## Section 8. Exposure controls/personal protection

Nickel

hours.

**CA Saskatchewan Provincial (Canada, 7/2013).**

STEL: 3 mg/m<sup>3</sup> 15 minutes. Form:

Inhalable fraction

TWA: 1.5 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction

**CA Ontario Provincial (Canada, 7/2015).**

TWA: 1 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction.

**CA Alberta Provincial (Canada, 4/2009).**

8 hrs OEL: 1.5 mg/m<sup>3</sup> 8 hours.

**CA British Columbia Provincial (Canada, 5/2015).**

TWA: 0.05 mg/m<sup>3</sup>, (as Ni) 8 hours.

**CA Quebec Provincial (Canada, 1/2014).**

TWAEV: 1 mg/m<sup>3</sup> 8 hours.

molybdenum

**CA British Columbia Provincial (Canada, 5/2015).**

TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Inhalable

TWA: 3 mg/m<sup>3</sup> 8 hours. Form: Respirable

**CA Saskatchewan Provincial (Canada, 7/2013).**

STEL: 20 mg/m<sup>3</sup>, (measured as Mo) 15 minutes. Form: Inhalable fraction

TWA: 10 mg/m<sup>3</sup>, (measured as Mo) 8

hours. Form: Inhalable fraction

STEL: 6 mg/m<sup>3</sup>, (measured as Mo) 15 minutes. Form: respirable fraction

TWA: 3 mg/m<sup>3</sup>, (measured as Mo) 8 hours.

Form: respirable fraction

**CA Ontario Provincial (Canada, 7/2015).**

TWA: 10 mg/m<sup>3</sup>, (as Mo) 8 hours. Form: Inhalable fraction.

TWA: 3 mg/m<sup>3</sup>, (as Mo) 8 hours. Form:

Respirable fraction.

**CA Alberta Provincial (Canada, 4/2009).**

8 hrs OEL: 3 mg/m<sup>3</sup>, (as Mo) 8 hours. Form: Respirable

8 hrs OEL: 10 mg/m<sup>3</sup>, (as Mo) 8 hours.

manganese

**CA British Columbia Provincial (Canada, 5/2015).**

TWA: 0.2 mg/m<sup>3</sup>, (as Mn) 8 hours.

**CA Alberta Provincial (Canada, 4/2009).**

8 hrs OEL: 0.2 mg/m<sup>3</sup>, (as Mn) 8 hours.

**CA Ontario Provincial (Canada, 7/2015).**

TWA: 0.2 mg/m<sup>3</sup>, (as Mn) 8 hours.

**CA Quebec Provincial (Canada, 1/2014).**

TWAEV: 0.2 mg/m<sup>3</sup>, (as Mn) 8 hours. Form: Total dust.

**CA Saskatchewan Provincial (Canada, 7/2013).**

STEL: 0.6 mg/m<sup>3</sup>, (measured as Mn) 15 minutes.

TWA: 0.2 mg/m<sup>3</sup>, (measured as Mn) 8 hours.

silicon

**CA British Columbia Provincial (Canada, 5/2015).**

TWA: 3 mg/m<sup>3</sup> 8 hours. Form: Respirable dust

## Section 8. Exposure controls/personal protection

TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust  
**CA Quebec Provincial (Canada, 1/2014).**  
 TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust.  
**CA Saskatchewan Provincial (Canada, 7/2013).**  
 STEL: 20 mg/m<sup>3</sup> 15 minutes.  
 TWA: 10 mg/m<sup>3</sup> 8 hours.

**Appropriate engineering controls** : No special measures are required for small quantities under normal and intended conditions of product use.

**Environmental exposure controls** : No special measures are required for small quantities under normal and intended conditions of product use.

### Individual protection measures

**Hygiene measures** : No special measures are required for small quantities under normal and intended conditions of product use.

**Eye/face protection** : No special measures are required for small quantities under normal and intended conditions of product use.

### Skin protection

**Hand protection** : No special protection is required.

**Body protection** : No special measures are required for small quantities under normal and intended conditions of product use.

**Other skin protection** : No special measures are required for small quantities under normal and intended conditions of product use.

**Respiratory protection** : No special measures are required for small quantities under normal and intended conditions of product use.

## Section 9. Physical and chemical properties

### Appearance

**Physical state** : Solid. [Formed wire]

**Color** : Metallic. Gray.

**Odor** : Odorless.

**Odor threshold** : Not applicable.

**pH** : Not applicable.

**Melting point** : 1315.57°C (2400°F)

**Boiling point** : Not applicable.

**Flash point** : Not applicable.

**Evaporation rate** : Not applicable.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not applicable.

**Vapor pressure** : Not applicable.

**Vapor density** : Not applicable.

**Relative density** : Not applicable.

**Solubility** : Insoluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not applicable.

**Decomposition temperature** : Not applicable.

## Section 9. Physical and chemical properties

**Viscosity** : Not applicable.

**Flow time (ISO 2431)** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.  
Under normal conditions of storage and use, hazardous polymerization will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

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

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
cobalt	LC50 Inhalation Dusts and mists	Rat - Male, Female	<0.05 mg/l	4 hours
molybdenum	LD50 Oral	Rat	550 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.84 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
manganese	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	5.14 mg/l	4 hours
silicon	LD50 Oral	Rat	9 g/kg	-
	LD50 Oral	Rat	3160 mg/kg	-

**Conclusion/Summary** : Not available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
manganese	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
silicon	Eyes - Mild irritant	Rabbit	-	3 milligrams	-

#### Conclusion/Summary

**Skin** : Not available.

**Eyes** : Not available.

**Respiratory** : Not available.

#### Sensitization

#### Conclusion/Summary

**Skin** : Not available.

**Respiratory** : Not available.

## Section 11. Toxicological information

### Mutagenicity

Conclusion/Summary : Not available.

### Carcinogenicity

Conclusion/Summary : Not available.

### Reproductive toxicity

Conclusion/Summary : Not available.

### Teratogenicity

Conclusion/Summary : Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
molybdenum	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Nickel manganese	Category 1 Category 2	Inhalation Not determined	respiratory tract central nervous system (CNS) and lungs

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Conclusion/Summary : Not available.

## Section 11. Toxicological information

<b>General</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
cobalt	Acute LC50 4400 µg/l	Daphnia - Daphnia magna	48 hours
Nickel	Acute LC50 3.4 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 2 ppm Marine water	Algae - Macrocystis pyrifera - Young	4 days
	Acute EC50 450 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 1000 µg/l Marine water	Daphnia - Daphnia magna	48 hours
	Acute IC50 0.31 mg/l Marine water	Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 47.5 ng/L Fresh water	Fish - Heteropneustes fossilis	96 hours
molybdenum	Chronic NOEC 100 mg/l Marine water	Algae - Glenodinium halli	72 hours
	Chronic NOEC 3.5 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks
	Acute LC50 >200000 µg/l	Daphnia - Daphnia magna	48 hours
manganese	Acute LC50 800 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 500 mg/l Marine water	Algae - Glenodinium halli	72 hours
	Acute EC50 31000 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute LC50 29000 µg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 28 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1.7 mg/l Fresh water	Daphnia - Water Flea-Ceriodaphnia dubia	8 days

**Conclusion/Summary** : Not available.

### Persistence and degradability

**Conclusion/Summary** : Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
cobalt	-	15600	high
silicon	57 to 77	-	high

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.



## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

## Section 14. Transport information

	<b>TDG Classification</b>	<b>DOT Classification</b>	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-	-	-
<b>Transport hazard class(es)</b>	-	-	-	-	-
<b>Packing group</b>	-	-	-	-	-
<b>Environmental hazards</b>	No.	No.	No.	No.	No.
<b>Additional information</b>	-	-	-	-	-

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : The following components are listed: Cobalt (and its compounds); Chromium (and its compounds); Nickel (and its compounds); Manganese (and its compounds)

**CEPA Toxic substances** : None of the components are listed.

**Canada inventory** : All components are listed or exempted.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 21/11/2016

**Date of previous issue** : No previous validation

**Version** : 1

**Key to abbreviations** :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations
- HPR = Hazardous Products Regulations

### Procedure used to derive the classification

Classification	Justification
Not classified.	

**References** : HPR = Hazardous Products Regulations

✔ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.