

## Section 1. Identification

**Product identifier** : Vector TAS Mini Screws  
**Product code** : Not available.  
**Other means of identification** : Not available.  
**Product type** : Metal screw

### 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 oral toxicity: 11.2%  
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 99.4%  
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 99.4%

**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.

Ingredient name	% (w/w)	CAS number
Aluminium powder (stabilized)	6.75	7429-90-5

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** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.  
**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 approved Class D extinguisher or smother with dry sand, dry clay or dry ground limestone.  
**Unsuitable extinguishing media** : Do not use water jet.

## Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : No specific fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
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.
- Remark** : Not considered to be a product presenting a risk of explosion. Molten material reacts violently with water and can react with aluminum, tin, zinc and their alloys to generate flammable and explosive hydrogen gas.

## 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

## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Aluminium powder (stabilized)	<p><b>CA Alberta Provincial (Canada, 4/2009).</b>  <b>Skin sensitizer.</b>            8 hrs OEL: 10 mg/m<sup>3</sup> 8 hours. Form: Metal Dust</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b>            STEL: 20 mg/m<sup>3</sup>, (measured as Al) 15 minutes. Form: Metal dust            TWA: 10 mg/m<sup>3</sup>, (measured as Al) 8 hours. Form: Metal dust            STEL: 10 mg/m<sup>3</sup>, (measured as Al) 15 minutes. Form: Pyro powder            TWA: 5 mg/m<sup>3</sup>, (measured as Al) 8 hours. Form: Pyro powder</p> <p><b>CA British Columbia Provincial (Canada, 7/2016).</b>            TWA: 1 mg/m<sup>3</sup> 8 hours. Form: Respirable</p> <p><b>CA Ontario Provincial (Canada, 7/2015).</b>            TWA: 1 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction.</p> <p><b>CA Quebec Provincial (Canada, 1/2014).</b>            TWAEV: 10 mg/m<sup>3</sup>, (as Al) 8 hours.</p>

**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.  
 Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
 When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molten product.

**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

<b>Physical state</b>	: Solid. [Metal screw]
<b>Color</b>	: Metallic.
<b>Odor</b>	: Odorless.
<b>Odor threshold</b>	: Not applicable.
<b>pH</b>	: Not applicable.
<b>Melting point</b>	: >1671.1°C (>3040°F)
<b>Boiling point</b>	: Not applicable.
<b>Flash point</b>	: Not applicable.
<b>Evaporation rate</b>	: Not applicable.
<b>Flammability (solid, gas)</b>	: Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: Not applicable.
<b>Vapor pressure</b>	: Not applicable.
<b>Vapor density</b>	: Not applicable.
<b>Relative density</b>	: Not applicable.
<b>Solubility</b>	: Insoluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
<b>Auto-ignition temperature</b>	: Not applicable.
<b>Decomposition temperature</b>	: Not applicable.
<b>Viscosity</b>	: Not applicable.
<b>Flow time (ISO 2431)</b>	: Not applicable.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
<b>Conditions to avoid</b>	: Avoid dust generation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials, metals, acids, alkalis and moisture. Molten aluminum is reactive with water.
<b>Hazardous decomposition products</b>	: Metal fume fever if exposed to high concentration of fumes. Iron and carbon oxides. Organic acid and titanium dioxide.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary** : Metal fume fever if exposed to high concentration of fumes.

#### Irritation/Corrosion

##### Conclusion/Summary

**Skin** : Not available.

**Eyes** : Not available.

**Respiratory** : Not available.

#### Sensitization

##### Conclusion/Summary

**Skin** : Not available.

**Respiratory** : Not available.

#### 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)

Not available.

#### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Aluminium powder (stabilized)	Category 2	Not determined	lungs

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

#### 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

## Section 11. Toxicological information

### 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.

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

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

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

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

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

**Fertility effects** : 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
Aluminium powder (stabilized)	Acute LC50 38000 µg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 120 µg/l Fresh water	Fish - Oncorhynchus mykiss - Embryo	96 hours
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days

**Conclusion/Summary** : Not available.

### Persistence and degradability

**Conclusion/Summary** : Not available.

### Bioaccumulative potential

Not available.

### 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.

**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: Aluminum (fume or dust only); Vanadium (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

<b>Date of issue/Date of revision</b>	: 19/01/2018
<b>Date of previous issue</b>	: No previous validation
<b>Version</b>	: 1
<b>Key to abbreviations</b>	: 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.