

Safety Data Sheet according to 1907/2006/EC, Article 31

Section 1: Identification of the Substance/Mixture and of the Company Undertaking

Product Name: 304V Stainless Steel

Manufacturer Name: Carpenter Technology Corp

Manufacturer Address 1: PO Box 14662, Reading, PA 19612
110 West Bem Street
READING, PA 19601
USA

Supplier Name: Carpenter Technology Corp

Emergency Phone: During normal opening times: +1 (610) 208-2134

Distributor: Carpenter Technology Corp

Distributor Address 1: PO Box 14662, Reading, PA 19612
110 West Bem Street
READING, PA 19601
USA

Notes from Section 1: Application of the substance / the mixture Metal working
Information department: Health and Safety Department

Section 2: Hazards Identification



Signal Words: Danger

Hazard Statements: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 - Suspected of causing cancer .
H372 - Causes damage to organs through prolonged or repeated exposure .

Precautionary Statements: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P284 - Wear respiratory protection.
P280 - Wear protective gloves
P264 - Wash thoroughly after handling
P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P321 - Specific treatment (see on this label).
P342 - If experiencing respiratory symptoms:
P363 - Wash contaminated clothing before reuse.
P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Note: Hazard statements
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
Causes damage to organs through prolonged or repeated exposure.

Hazard-determining components of labeling:
nickel
cobalt

J.A.W. Products, Inc.
835 Industrial Hwy, Unit 125
Cinnaminson, NJ 08077
888-221-0671
Manufacturer Orthodontic Wires

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

Other hazards

- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

Notes from Section 2:

Description: Mixture of the substances listed below with nonhazardous additions.

Section 3: Composition/Information on Ingredients

| Ingredient Name | CAS Number | Ingredient Percent | EC Number | Comments |
|-----------------|------------|--------------------|-----------|----------|
| chromium | 7440-47-3 | 10-<25% | | |
| nickel | 7440-02-0 | 2.5-<10% | | |
| carbon | 7440-44-0 | 2.5-<10% | | |
| nitrogen | 7727-37-9 | 2.5-<10% | | |
| sulfur | 7704-34-9 | 2.5-<10% | | |
| manganese | 7439-96-5 | 0.1-≤2.5% | | |
| cobalt | 7440-48-4 | 0.1-<1% | | |

Comments:

Hazard statements

- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction.
- Suspected of causing cancer.
- Causes damage to organs through prolonged or repeated exposure.

Hazard-determining components of labeling:

nickel
cobalt

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

Other hazards

- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

Section 4: First Aid Measures

- Inhalation: Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- Skin Contact: Immediately wash with water and soap and rinse thoroughly.
- Eye Contact: Rinse opened eye for several minutes under running water.
- Ingestion: If symptoms persist consult doctor.

Notes from Section 4:

General Information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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.

Section 5: Firefighting Measures

Flash Point: Not applicable.

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|----------------------------|--|
| Auto Ignition Temperature: | Product is not selfigniting. |
| Upper Flammable Limit: | Not determined. |
| Lower Flammable Limit: | Not determined. |
| Extinguishing Media: | The product is not flammable. |
| Protective Equipment: | No special measures required. |
| NFPA Health: | 2 |
| NFPA Fire: | 0 |
| NFPA Reactivity: | 0 |
| Notes from Section 5: | Special hazards arising from the substance or mixture No further relevant information available. |

Section 6: Accidental Release Measures

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| Personnel Precautions: | Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away |
| Environmental Precautions: | No special measures required. |
| Methods for Containment: | No special measures required. |
| Methods for Cleanup: | No special measures required. |
| Notes from Section 6: | 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. |

Section 7: Handling and Storage

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| Handling: | Precautions for safe handling Not applicable. Information about protection against explosions and fires: Not applicable. |
| Storage: | 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. |
| Hygiene Practices: | General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. |
| Notes from Section 7: | Specific end use(s) No further relevant information available. |

Section 8: Exposure Controls/Personal Protection

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| Eye Protection: | Safety glasses |
| Respiratory Protection: | In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air. |
| Hand Protection: | Protective gloves The glove material has to be impermeable and resistant to the product/ the substance/ the preparation Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation Material of gloves 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. As the product is a preparation of several substances, the resistance of the |

glove material can not be calculated in advance and has therefore to be checked prior to the application.

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

Hygiene Practices:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Notes from Section 8:

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

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

Exposure Guidelines - Ingredient Based:

chromium:

Exposure Guidelines:

PEL Long-term value: 1* 0.5** mg/m³

*metal; **inorganic compds., as Cr

REL Long-term value: 0.5* mg/m³

*metal+inorg.compds.as Cr; See Pocket Guide App. C

TLV Long-term value: 0.5 mg/m³

nickel:

Exposure Guidelines:

PEL Long-term value: 1 mg/m³

REL Long-term value: 0.015 mg/m³

as Ni; See Pocket Guide App. A

TLV Long-term value: 1.5* mg/m³

elemental, *Inhalable fraction

nitrogen:

Exposure Guidelines:

TLV withdrawn TLV, see App. F; simple asphyxiant

manganese:

Exposure Guidelines:

PEL Ceiling limit value: 5 mg/m³

as Mn

REL Short-term value: 3 mg/m³

Long-term value: 1 mg/m³

fume, as Mn

TLV Long-term value: 0.02* 0.1* mg/m³

as Mn; *respirable **inhalable fraction

Section 9: Physical and Chemical Properties

Physical State:

Form: Solid

Color:

According to product specification

Odor:

Characteristic

Odor Threshold:

Not determined.

pH:

Not applicable.

Melting Temperature:

Melting point/Melting range: Undetermined.

Boiling Temperature:

Boiling point/Boiling range: -195 °C (-319 °F)

Flash Point:

Not applicable.

Evaporation Rate:

Not applicable.

Upper Flammable Limit:

Not determined.

Lower Flammable Limit:

Not determined.

Vapor Pressure:

Not applicable.

Vapor Density:

Not applicable.

Density:

Density at 20 °C (68 °F): 6.65964 g/cm³ (55.575 lbs/gal)

| | |
|-------------------------------|---|
| | Relative density Not determined. |
| Solubility In Water: | Solubility In / Miscibility with Water: Insoluble. |
| Octanol Water Partition Coef: | Not determined |
| Auto Ignition Temperature: | Product is not selfigniting. |
| Decomposition Temperature: | Not determined. |
| Viscosity: | Kinematic: Not applicable. |
| Dynamic Viscosity: | Not applicable. |
| Note from Section 9: | Flammability (solid, gaseous): Not determined. Danger of explosion: Product does not present an explosion hazard. Solvent content: Organic solvents: 0.0 % Solids content: 95.0 % Other information No further relevant information available. |

Section 10: Stability and Reactivity

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| Reactivity: | Possibility of hazardous reactions No dangerous reactions known. |
| Conditions To Avoid: | Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications. No further relevant information available. |
| Incompatible Materials: | No further relevant information available |
| Hazardous Decomposition Products: | No dangerous decomposition products known. |

Section 11: Toxicological Information

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| Sensitization: | Sensitization possible through skin contact |
| OSHA Carcinogen: | OSHA-Ca (Occupational Safety & Health Administration) None of the ingredients is listed. |
| Irritation: | Primary irritant effect: on the skin: No irritant effect. on the eye: No irritating effect |
| Notes from Section 11: | Additional toxicological information: The product shows the following dangers according to internally approved calculation methods for preparations: Irritant |

Section 12: Ecological information

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| Biodegradation: | Persistence and degradability No further relevant information available. |
| BioAccumulation: | Bioaccumulative potential No further relevant information available. |
| Effect of Material On Aquatic: | Aquatic toxicity: No further relevant information available |
| Mobility In Environmental Media: | Mobility in soil No further relevant information available. |
| Notes from Section 12: | Additional ecological information: General notes: Water hazard class 2 (Self-assessment): hazardous for water Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available |

Section 13: Disposal Considerations

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| Waste Disposal: | Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. |
| Notes from Section 13: | Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. |

Section 14: Transport Information

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| DOT Shipping Name: | not regulated |
| DOT UN Number: | not regulated |
| DOT Hazard Class: | not regulated |
| DOT Packing Group: | not regulated |
| IMDG Shipping Name: | not regulated |
| IMDG UN Number: | not regulated |
| IMDG Hazard Class: | not regulated |
| IMDG Packing Group: | not regulated |
| IATA Shipping Name: | not regulated |
| IATA UN Number: | not regulated |
| IATA Hazard Class: | not regulated |
| IATA Packing Group: | not regulated |
| Notes from Section 14: | ADN UN-Number: not regulated UN proper shipping name: not regulated Transport hazard class(es): not regulated Packing group: not regulated Environmental hazards: Marine pollutant: No Special precautions for user: Not applicable. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. UN "Model Regulation": - |

Section 15: Regulatory Information**Regulatory - Product Based:**

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|--|---|
| GHS label elements: | The product is classified and labeled according to the Globally Harmonized System (GHS). |
| Hazard pictograms: | GHS08 |
| Signal word: | Danger |
| Hazard-determining components of labeling: | nickel cobalt |
| Hazard statements: | May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure. |
| Precautionary statements: | |

Do not breathe dust/fume/gas/mist/vapors/spray.
 Wear respiratory protection.
 Wear protective gloves.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Specific treatment (see on this label).
 If experiencing respiratory symptoms: Call a poison center/doctor.
 Wash contaminated clothing before reuse.
 If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
 IF exposed or concerned: Get medical advice/attention.
 If skin irritation or rash occurs: Get medical advice/attention.
 Get medical advice/attention if you feel unwell.
 If on skin: Wash with plenty of water.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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

Sara
 Section 355 (extremely hazardous substances): 7723-14-0 red phosphorus

Section 313 (Specific toxic chemical listings):

440-47-3 chromium
 7440-02-0 nickel
 7439-96-5 manganese
 7440-50-8 copper
 7440-48-4 cobalt
 7723-14-0 red phosphorus

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65:

Chemicals known to cause cancer:
 7440-02-0 nickel
 7440-48-4 cobalt

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)
 7440-47-3 chromium D
 7439-96-5 manganese D
 7440-50-8 copper D
 7723-14-0 red phosphorus D

TLV (Threshold Limit Value established by ACGIH):

7440-47-3 chromium A4
 7440-02-0 nickel A5
 7440-48-4 cobalt A3

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

7440-02-0 nickel

Section 16: Additional Information

Revision Notes: Date of preparation / last revision 06/15/2015 / 1

Disclaimer: 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.

Notes from Section 16: Department issuing SDS: Environment protection department.
Abbreviations and acronyms:
ADR: 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
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)
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Carc. 2: Carcinogenicity, Hazard Category 2
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1
* Data compared to the previous version altered.

HMIS:

| | |
|--------------|---|
| Health | 2 |
| Flammability | 0 |
| Reactivity | 0 |
| PPE | |

Chronic Health Hazard

NFPA:



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