

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/19/2015

Reviewed on 10/10/2015

**1 Identification**

- **Product identifier**
- **Trade name:** CarTech HP 9-4-30
- **Application of the substance / the mixture** Metal working
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Carpenter Technology Corp  
PO Box 14662, Reading, PA 19612  
110 West Bern Street  
READING, PA 19601  
USA
- **Information department:** Health and Safety Department
- **Emergency telephone number:** During normal opening times: +1 (610) 208-2134

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS08 Health hazard

- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Carc. 2 H351 Suspected of causing cancer.
- STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

- Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **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.*

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*Causes damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*[In case of inadequate ventilation] 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.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*2

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

· **Dangerous components:**

7723-14-0	red phosphorus	≤10%
7440-32-6	titanium	≤10%
7440-02-0	nickel	2.5-<10%
7440-48-4	cobalt	2.5-<10%
7704-34-9	sulfur	2.5-<10%
7429-90-5	aluminium	0.1-≤2.5%
7440-47-3	chromium	0.1-≤2.5%

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7439-98-7 molybdenum

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0.1-≤2.5%

## 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **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**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** No special measures required.
- **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** Not applicable.
- **Information about protection against explosions and fires:** Not applicable.
- **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:** Keep receptacle tightly sealed.

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· *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.· *Control parameters*· *Components with limit values that require monitoring at the workplace:***7723-14-0 red phosphorus**REL Long-term value: 0.1 mg/m<sup>3</sup>**7440-02-0 nickel**PEL Long-term value: 1 mg/m<sup>3</sup>REL Long-term value: 0.015 mg/m<sup>3</sup>  
as Ni; See Pocket Guide App. ATLV Long-term value: 1.5\* mg/m<sup>3</sup>  
elemental, \*inhalable fraction**7440-48-4 cobalt**PEL Long-term value: 0.1\* mg/m<sup>3</sup>  
as Co; \*for metal dust and fumeREL Long-term value: 0.05 mg/m<sup>3</sup>  
as Co; metal dust & fumeTLV Long-term value: 0.02 mg/m<sup>3</sup>  
BEI**7429-90-5 aluminium**PEL Long-term value: 15\*; 15\*\* mg/m<sup>3</sup>  
\*Total dust; \*\* Respirable fractionREL Long-term value: 10\* 5\*\* mg/m<sup>3</sup>  
as Al\*Total dust\*\*Respirable/pyro powd./welding f.**7440-47-3 chromium**PEL Long-term value: 1\* 0.5\*\* mg/m<sup>3</sup>  
\*metal; \*\*inorganic compds., as CrREL Long-term value: 0.5\* mg/m<sup>3</sup>  
\*metal+inorg.compds.as Cr; See Pocket Guide App. CTLV Long-term value: 0.5 mg/m<sup>3</sup>**7439-98-7 molybdenum**PEL Long-term value: 15\* mg/m<sup>3</sup>  
\*Total dustTLV Long-term value: 10\* 3\*\* mg/m<sup>3</sup>  
as Mo; \*inhalable fraction \*\* respirable fraction

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**· Ingredients with biological limit values:**

**7440-48-4 cobalt**

**BEI** 15 µg/L

Medium: urine

Time: end of shift at end of workweek

Parameter: Cobalt (background)

1 µg/L

Medium: blood

Time: end of shift at end of workweek

Parameter: Cobalt (background, semi-quantitative)

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

**· Exposure controls**

**· Personal protective equipment:**

**· 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.

Store protective clothing separately.

**· Breathing equipment:**

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.

**· Protection of hands:**



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.

**· Eye protection:**



Safety glasses

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## 9 Physical and chemical properties

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

**· General Information**

**· Appearance:**

**Form:** Solid  
**Color:** According to product specification

**· Odor:** Characteristic

**· Odour threshold:** Not determined.

**· pH-value:** Not applicable.

**· Change in condition**

**Melting point/Melting range:** Undetermined.  
**Boiling point/Boiling range:** 416 °C (781 °F)

**· Flash point:** Not applicable.

**· Flammability (solid, gaseous):** Not determined.

**· Ignition temperature:** 300 °C (572 °F)

**· Decomposition temperature:** Not determined.

**· Auto igniting:** Product is not selfigniting.

**· Danger of explosion:** Product does not present an explosion hazard.  
Explosive when mixed with oxidising substances.

**· Explosion limits:**

**Lower:** 0.0 Vol %  
**Upper:** 0.0 Vol %

**· Vapor pressure:** Not applicable.

**· Density at 20 °C (68 °F):** 6.77829 g/cm<sup>3</sup> (56.565 lbs/gal)

**· Relative density** Not determined.

**· Vapour density** Not applicable.

**· Evaporation rate** Not applicable.

**· Solubility in / Miscibility with**

**Water:** Insoluble.

**· Partition coefficient (n-octanol/water):** Not determined.

**· Viscosity:**

**Dynamic:** Not applicable.  
**Kinematic:** Not applicable.

**· Solvent content:**

**Organic solvents:** 0.0 %

**Solids content:** 90.2 %

**· Other information** No further relevant information available.

## 10 Stability and reactivity

**· Reactivity** No further relevant information available.

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- **Chemical stability**
- **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:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

7440-48-4 cobalt

Oral LD50 6170 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

- **Sensitization:**

Sensitization possible through inhalation.  
Sensitization possible through skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

7440-02-0	nickel	1
7440-48-4	cobalt	2B
7440-47-3	chromium	3

- **NTP (National Toxicology Program)**

7440-02-0	nickel	R
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- **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:**  
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.

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- **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:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | not regulated   |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | not regulated   |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | not regulated   |
| · <b>Packing group</b>   |                 |
| · <b>DOT, IMDG, IATA</b>   | not regulated   |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <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>UN "Model Regulation":</b>  | not regulated   |

### 15 Regulatory information

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

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

7723-14-0	red phosphorus
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· **Section 313 (Specific toxic chemical listings):**

7723-14-0	red phosphorus
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7440-02-0	nickel
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7440-48-4	cobalt
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7429-90-5	aluminium
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7440-47-3	chromium
7440-50-8	copper
7439-96-5	manganese
7440-62-2	vanadium

**· 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)**

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

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

7440-02-0	nickel	A5
7440-48-4	cobalt	A3
7429-90-5	aluminium	A4
7440-47-3	chromium	A4
7439-98-7	molybdenum	A3

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

7440-02-0	nickel
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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.*

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*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.*

*[In case of inadequate ventilation] 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.

### 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.*

**· Department issuing SDS:** Environment protection department.

**· Date of preparation / last revision** 10/19/2015 / 3

**· 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)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*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.**