

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/01/2017

Reviewed on 08/01/2017

1 Identification

- **Product identifier**
- **Trade name: LATROBE MELTED VERSION OF 718 STOCK**
- **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
101 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**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

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.

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

[In case of inadequate ventilation] wear respiratory protection.

IF ON SKIN: Wash with plenty of water.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Wash contaminated clothing before reuse.

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

HEALTH	3
FIRE	0
REACTIVITY	0

Health = *3

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:**

CAS: 7440-02-0 Reg.nr.: 01-2119438727-29-0059	nickel	50-100%
CAS: 7440-47-3 Reg.nr.: 01-2119485652-31-0069	chromium	10-25%
CAS: 7439-98-7 Reg.nr.: 05-2116477510-47-0000	molybdenum	2.5-<10%

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CAS: 7440-32-6 Reg.nr.: 05-2116477515-37-0000	titanium	0.1-≤2.5%
CAS: 7440-48-4 Reg.nr.: 05-2116477512-43-0000	cobalt	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** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

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:** 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.
- **Protective Action Criteria for Chemicals**

· PAC-1:		
7440-02-0	nickel	4.5 mg/m ³
7440-47-3	chromium	1.5 mg/m ³
7439-89-6	iron	3.2 mg/m ³
7440-03-1	niobium	30 mg/m ³
7439-98-7	molybdenum	30 mg/m ³
7440-32-6	titanium	30 mg/m ³

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7440-48-4	cobalt	0.18 mg/m ³
7440-21-3	silicon	45 mg/m ³
7439-96-5	manganese	3 mg/m ³
7440-50-8	copper	3 mg/m ³

· PAC-2:

7440-02-0	nickel	50 mg/m ³
7440-47-3	chromium	17 mg/m ³
7439-89-6	iron	35 mg/m ³
7440-03-1	niobium	330 mg/m ³
7439-98-7	molybdenum	330 mg/m ³
7440-32-6	titanium	330 mg/m ³
7440-48-4	cobalt	2 mg/m ³
7440-21-3	silicon	100 mg/m ³
7439-96-5	manganese	5 mg/m ³
7440-50-8	copper	33 mg/m ³

· PAC-3:

7440-02-0	nickel	99 mg/m ³
7440-47-3	chromium	99 mg/m ³
7439-89-6	iron	150 mg/m ³
7440-03-1	niobium	2,000 mg/m ³
7439-98-7	molybdenum	2,000 mg/m ³
7440-32-6	titanium	2,000 mg/m ³
7440-48-4	cobalt	20 mg/m ³
7440-21-3	silicon	630 mg/m ³
7439-96-5	manganese	1,800 mg/m ³
7440-50-8	copper	200 mg/m ³

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:* Not determined.
- *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:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

7440-02-0 nickel

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

7440-47-3 chromium

PEL Long-term value: 1 mg/m³

REL Long-term value: 0.5* mg/m³
*metal+inorg.compds.as Cr; See Pocket Guide App. C

TLV Long-term value: (0.5) 0.5* mg/m³
*inhalable fraction, as Cr(0)

7439-98-7 molybdenum

PEL Long-term value: 15* mg/m³
*Total dust, as Mo

TLV Long-term value: 10* 3** mg/m³
as Mo; *inhalable fraction ** respirable fraction

7440-48-4 cobalt

PEL Long-term value: 0.1* mg/m³
as Co; *for metal dust and fume

REL Long-term value: 0.05 mg/m³
as Co; metal dust & fume

TLV Long-term value: (0.02) NIC-0.02* mg/m³
*inh. fraction; NIC-Skin, DSEN, RSEN (BEI)

- **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.

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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

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Solid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

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

· **Danger of explosion:** Not determined.

· **Explosion limits:**

Lower: Not determined.

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Upper:	Not determined.
· Vapor pressure:	Not applicable.
· Density at 20 °C (68 °F):	8.33707 g/cm ³ (69.573 lbs/gal)
· Relative density	Not determined.
· Vapor 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 %
VOC content:	0.0 g/l / 0.00 lb/gl
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No further relevant information available.
- **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:** Metal oxide fumes

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)
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- **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

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· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

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

· **NTP (National Toxicology Program)**

7440-02-0	nickel	R
7440-48-4	cobalt	R

· **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.
- **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

- | | |
|----------------------------------|---------------|
| · UN-Number | |
| · DOT, ADN, IMDG, IATA | not regulated |
| · UN proper shipping name | |
| · DOT, ADN, IMDG, IATA | not regulated |

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- | | |
|--|------------------------|
| · <i>Transport hazard class(es)</i> | |
| · <i>DOT, ADN, IMDG, IATA</i> | |
| · <i>Class</i> | <i>not regulated</i> |
| · <i>Packing group</i> | |
| · <i>DOT, IMDG, IATA</i> | <i>not regulated</i> |
| · <i>Environmental hazards:</i> | <i>Not applicable.</i> |
| · <i>Special precautions for user</i> | <i>Not applicable.</i> |
| · <i>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</i> | <i>Not applicable.</i> |
| · <i>UN "Model Regulation":</i> | <i>not regulated</i> |

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):*

7440-02-0	nickel
7440-47-3	chromium
7440-48-4	cobalt
7439-96-5	manganese
7440-50-8	copper

· *TSCA (Toxic Substances Control Act):*

7440-02-0	nickel
7440-47-3	chromium
7439-89-6	iron
7440-03-1	niobium
7439-98-7	molybdenum
7440-32-6	titanium
7440-48-4	cobalt
7440-21-3	silicon
7439-96-5	manganese
7440-50-8	copper

· *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.

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· **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

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

7440-02-0	nickel	A5
7440-47-3	chromium	A4
7439-98-7	molybdenum	A3
7440-48-4	cobalt	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.

May cause an allergic skin reaction.

Suspected of causing cancer.

Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

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.

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

[In case of inadequate ventilation] wear respiratory protection.

IF ON SKIN: Wash with plenty of water.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

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If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Wash contaminated clothing before reuse.

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 08/01/2017 / 1*

· **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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· *** Data compared to the previous version altered.**