SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

• Trade name: VACODIL® 42 Cr6

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

Not applicable

1.3 Details of the supplier of the information sheet

• Manufacturer/Supplier:
  VACUUMSCHMELZE GmbH & Co.KG
  Grüner Weg 37
  D-63450 Hanau
  datasheet@vacuumschmelze.com

• Further information obtainable from: Environmental Protection Department

1.4 Emergency telephone number:

Tel. no.: (**49) 6181/38-0
Emergency tel. no.: via (**49) 6181/38-0

SECTION 2: Hazards identification

2.2 Classification (substance or mixture)

Classification according to Regulation (EC) No 1272/2008 (CLP-Regulation):

Not applicable

For articles there is no obligation to classify acc. to CLP -Regulation.

2.2 Labelling according to Regulation (EC) No 1272/2008

Labelling according to Regulation (EC) No 1272/2008 (CLP-Regulation):

Not applicable

2.3 Additional VAC information:

In the case of dust-producing processing, we recommend observance of the following warnings:

• Hazard statements
  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/vapours/spray.
  Wear protective gloves/protective clothing/eye protection/face protection.
  IF exposed or concerned: Get medical advice/attention.
  If skin irritation or rash occurs: Get medical advice/attention.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
**SECTON 3: Composition/information on ingredients**

- **3.2 Chemical characterization:**
  - **Description:** Metal in compact form
  - **Components (composition):**
    The classifications given below reflect the classification of each pure substance respectively and are intended for information only.
    The legal classifications of the pure substances (harmonized classification according to substance list of the Annex VI of the CLP Regulation) got complemented, insofar as additional substance-specific information from accessible data sources (e.g. TRGS 905, toxicological studies) for health hazards and/or physical hazards are available.

<table>
<thead>
<tr>
<th>CAS/ EINECS/ RTECS</th>
<th>Component</th>
<th>Classification</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-02-0/ 231-111-4/ 028-002-00-7</td>
<td>nickel</td>
<td>☑ Carc. 2; ☑ H351; ☑ STOT RE 1, H372; ☑ Skin Sens. 1; H317</td>
<td>~ 42%</td>
</tr>
<tr>
<td>7440-47-3/ 231-157-5/ GB 4200000</td>
<td>chromium substance with a Community workplace exposure limit</td>
<td>~ 6%</td>
<td></td>
</tr>
</tbody>
</table>

- **NON-hazardous Ingredients**
  - **CAS/ EINECS/ RTECS:**
    | CAS    | EINECS    | RTECS       |
    |--------|-----------|-------------|
    | 7439-89-6 | 231-096-4 | NO 4565500  |

- **Iron (compact form)**

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
  - **After inhalation:**
    If metal vapours or dusts have been inhaled:
    Get the affected person out in the fresh air and call a doctor.
  - **After skin contact:**
    Foreign bodies which have penetrated the skin must be removed and the wound cleaned thoroughly.
  - **After eye contact:**
    Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - **After swallowing:**
    Consult a doctor if the symptoms persist.
  - **4.2 Most important symptoms and effects, both acute and delayed:**
    No further relevant information available.
  - **4.3 Indication of any immediate medical attention and special treatment needed:**
    No further relevant information available.

**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents:**
    Non-combustible.
    Extinguishing agents must be adapted to the environment.

(Contd. on page 3)
Trade name: VACODIL® 42 Cr6

5.2 Special hazards arising from the substance or mixture
Formation of toxic smoke / fumes (metal / metal oxides) is possible during heating or in case of fire. Do not inhale fumes.

5.3 Advice for firefighters
Protective equipment: No special measures required.

SECTION 6: Accidental release measures
Accidental release of dusts and vapours which are damaging to health can be ruled out.

6.1 Personal precautions, protective equipment and emergency procedures
No special measures required.

6.2 Environmental precautions: No special measures required.

6.3 Methods and material for containment and cleaning up: No special measures required.

6.4 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

7.1 Precautions for safe handling
No safety precautions are necessary in the delivered form.
The appropriate industrial and environmental safety measures must be taken for processing steps which cause dust
(see also section 8):
Ensure good ventilation/exhaustion at the workplace.
Take note of emission threshold.

7.2 Conditions for safe storage, including any incompatibilities

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Ingredients with limit values that require monitoring at the workplace:
For International Limit Values see Additional information below.
# Information Sheet for Articles

**Trade name:** VACODIL® 42 Cr6

<table>
<thead>
<tr>
<th>7440-02-0 nickel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AGW (Germany)</td>
<td>Long-term value: 0.006A; 0.030E³ mg/m³ 8(II);AGS, 24, Sh, Y, 10*, 31*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7440-47-3 chromium</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IOELV (EU)</td>
<td>Long-term value: 2 mg/m³ as Cr 8(I);10, EU</td>
</tr>
<tr>
<td>AGW (Germany)</td>
<td>Long-term value: 2 E mg/m³ 1(l),10, EU</td>
</tr>
</tbody>
</table>

- **DNELs**
- DNELs for OSH purposes
  - In Germany, occupational exposure limits (AGW) of the Technical Rules on Hazardous Substances (TRGS) 900 continue to constitute workplace atmospheric limit values that are binding upon employers. Should no AGW and for example no maximum workplace concentration (MAK value) of the German Research Foundation (DFG) be available, the employer must also consider the DNEL during risk assessment.
  - (Source: Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA))
  - Current values are available: [http://www.dguv.de/ifa/gestis/gestis-dnel-liste/index.jsp](http://www.dguv.de/ifa/gestis/gestis-dnel-liste/index.jsp).

- **7440-02-0 nickel**
  - Inhalative Long-term exposure - inhalation - local effects: 0.05 mg/m³ (Ind)
  - Inhalative Long-term exposure - inhalation - systemic effects: 0.05 mg/m³ (Ind)

- **Additional Occupational Exposure Limit Values for possible hazards during processing:**
  - Compliance with the general dust limit value(s) (lung penetrating and/or inhalable fraction) must be ensured.
  - If the occurrence of chrome (VI) compounds cannot be ruled out, the TRGS 910 (acceptance and tolerance concentrations) must be considered!
  - The AGW for nickel is to be used only for nickel metal.
  - For thermal processes in the presence of atmospheric oxygen, oxidic nickel compounds must always be assumed and the ERB (TRGS 910) must be applied.

- **Additional information:**
  - The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment:**
  - **General protective and hygienic measures:**
    - Keep away from foodstuffs, beverages and feed.
    - Wash hands before breaks and at the end of work.

- **Respiratory protection:**
  - In the case of dust formation (limit value exceeded), breathing apparatus must be worn.
  - Time limits for wearing must be observed.
  - Breathing mask; apparatus with particle filter P2 or P3, for example:
    - Full face mask (EN 136)
    - Breathing mask (EN 149) FFP2 or FFP3
    - 10 times the limit value (FFP2)
    - 30 times the limit value (FFP3)
    - Recommendation: P3

- **Protection of hands:**
  - Avoid repeated and prolonged contact with the skin, use protective gloves.
Preventive skin protection by use of skin-protecting agents is recommended.

- **Material of gloves**
  Experience has shown glove materials polychloroprene, nitrile caoutchouc, butyl caoutchouc, fluoride caoutchouc and polyvinylchloride to offer sufficient protection.

- **Penetration time of glove material**

- **Eye protection:**
  In the event of larger quantities of dust:
  Wear protective glasses / EN 166, poss. with side protection.

- **Limitation and supervision of exposure into the environment**
  The legal issue values and limitations are to be paid attention!

### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th><strong>9.1 Information on basic physical and chemical properties</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Form:             Semi-finished products/parts: e.g. strip, wire, parts and bars</td>
</tr>
<tr>
<td>Colour:           Metallic</td>
</tr>
<tr>
<td>Odour:            Odourless</td>
</tr>
<tr>
<td><strong>pH-value:</strong>      Not applicable.</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
</tr>
<tr>
<td>Melting point/Melting range (approx.): 1,430 °C</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature:</strong></td>
</tr>
<tr>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Explosive properties:</strong></td>
</tr>
<tr>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Vapour pressure:</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Density (approx.) at 20 °C:</strong></td>
</tr>
<tr>
<td>8.1 g/cm³</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with water:</strong></td>
</tr>
<tr>
<td>Insoluble.</td>
</tr>
<tr>
<td><strong>9.2 Other information</strong></td>
</tr>
<tr>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

<table>
<thead>
<tr>
<th><strong>10.1 Reactivity</strong> No further relevant information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10.2 Chemical stability</strong></td>
</tr>
<tr>
<td><strong>Thermal decomposition / conditions to be avoided:</strong> No decomposition if used according to specifications.</td>
</tr>
<tr>
<td><strong>10.3 Possibility of hazardous reactions</strong></td>
</tr>
<tr>
<td>Hydrogen is released in contact with acid which can cause explosive gas mixtures.</td>
</tr>
<tr>
<td><strong>10.4 Conditions to avoid</strong></td>
</tr>
<tr>
<td>No further relevant information available.</td>
</tr>
<tr>
<td><strong>10.5 Incompatible materials:</strong></td>
</tr>
<tr>
<td>No further relevant information available.</td>
</tr>
<tr>
<td><strong>10.6 Hazardous decomposition products:</strong> No dangerous decomposition products known.</td>
</tr>
</tbody>
</table>

(Contd. on page 6)
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

LD/LC50 values:

<table>
<thead>
<tr>
<th>7440-02-0 nickel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50 &gt;9,000 mg/kg (rat)</td>
</tr>
</tbody>
</table>

Primary irritant effect:

- Skin corrosion/irritation see sensitization
- Serious eye damage/irritation
  Irritation of the eyes in the case of massive direct contact will be mainly due to mechanical effects depending on the grain size.
- Respiratory or skin sensitisation
  May cause an allergic skin reaction.
- Germ cell mutagenicity
  Based on available data, the classification criteria are not met.
- Carcinogenicity
  Suspected of causing cancer.
- Reproductive toxicity
  Based on available data, the classification criteria are not met.
- STOT-single exposure
  Based on available data, the classification criteria are not met.
- STOT-repeated exposure
  Causes damage to organs through prolonged or repeated exposure.
- Aspiration hazard
  Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Additional ecological information:

- General notes: Alloys in solid form do not pose an ecological threat.
- 12.5 Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- 12.6 Other adverse effects
  No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Observe official regulations.

Uncleaned packaging: Not applicable

SECTION 14: Transport information

- Transport/Additional information:
- Land transport ADR/RID (cross-border):
  - Remarks: Non-hazardous goods from the standpoint of the specified regulations
Trade name: VACODIL® 42 Cr6

- Maritime transport IMDG:
- Remarks: Non-hazardous goods from the standpoint of the specified regulations
- Air Transport ICAO-TI and IATA-DGR:
- Remarks: Non-hazardous goods from the standpoint of the specified regulations

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Directive 2012/18/EU
  - Named dangerous substances - ANNEX I None of the ingredients is listed.
  - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 27
- National regulations:
  - Other regulations, limitations and prohibitive regulations
e.g.
  - 1272/2008/EG (CLP)
  - 1907/2006/EG (REACH)
  - German Hazardous Substances
  - TRGS 561 / TRGS 910
- 15.2 Chemical safety assessment: Void (for articles)

SECTION 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.

- Relevant phrases
  Wording of the hazard warnings mentioned (Chapter 3) for pure substances:
  H317 May cause an allergic skin reaction.
  H351 Suspected of causing cancer.
  H372 Causes damage to organs through prolonged or repeated exposure.

- Department issuing SDS:
  Department OPS-C SE
  Tel. 06181/38-2045
- Contact:
  Environmental Protection Department
  Tel. 06181/38-2359
- Abbreviations and acronyms:
  RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  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
  IATA: International Air Transport Association
  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)
  DNEL: Derived No-Effect Level (REACH)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Skin Sens. 1: Skin sensitisation – Category 1
  Carc. 2: Carcinogenicity – Category 2
  STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

(Contd. on page 8)
Trade name: **VACODIL® 42 Cr6**

(Contd. of page 7)

- Sources
  - KÜHN-BIRETT-Merkblätter gefährlicher Arbeitsstoffe
  - Technische Regeln für Gefahrstoffe