

## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name: VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**
- **Material Safety Data Sheet - no.:** IB81
- **Relevant identified uses of the substance or mixture and uses advised against** Not applicable
- **Application of the substance / the preparation** Brazing foil
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
VACUUMSCHMELZE GmbH & Co.KG  
Grüner Weg 37  
D-63450 Hanau
- datasheet@vacuumschmelze.com
- **Information department:** Environmental Protection Department
- **Emergency telephone number:**  
Tel. no.: (\*\*49) 6181/38-0  
Emergency tel. no.: via (\*\*49) 6181/38-0

## 2 Hazards identification

- **Classification (substance or mixture)**  
Classification according to Regulation (EC) No 1272/2008 (CLP-Regulation):  
Not applicable  
Our semi-finished and finished products constitute manufactured articles under the terms of the REACH Regulation (EC) No. 1907/2006.  
For articles there is no obligation to classify acc. to CLP -Regulation.
- **GHS label elements**  
Labelling according to Regulation (EC) No 1272/2008 (CLP-Regulation):  
Not applicable  
-
- **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.  
May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
Do not breathe dust/fume/gas/mist/vapours/spray.  
In case of inadequate ventilation wear respiratory protection.  
Use personal protective equipment as required.  
Avoid release to the environment.  
Do not eat, drink or smoke when using this product.  
Get medical advice/attention if you feel unwell.
- **Other hazards**  
  
Danger of accident!  
Always wear protective clothing, protective glasses and safety gloves when handling the bands.  
- The bands have sharp edges. There is a danger of (serious) injury from cuts.  
- The bands can split and cause (serious) cuts when bent excessively
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization:**
- **Description:** Brazing foil

(Contd. on page 2)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 01/26/2012

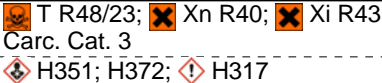
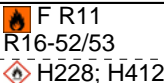
Reviewed on 01/26/2012

Trade name: **VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**

(Contd. of page 1)

• **Dangerous components:**

The classifications given below reflect the classification of each pure substance respectively and are intended for information only

CAS: 7440-50-8 EINECS: 231-159-6	copper		75-80%
CAS: 7440-31-5 EINECS: 231-141-8	tin		~ 9%
CAS: 7440-02-0 EINECS: 231-111-4 Index number: 028-002-00-7	nickel		~ 7%
CAS: 7723-14-0 EINECS: 231-768-7 Index number: 015-002-00-7	red phosphorus		~ 6%

• **Additional information:** For the wording of the listed risk phrases refer to section 16.

## 4 First aid measures

• **Description of first aid measures**

• **After inhalation:**

If metal vapours or solid 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:**

Foreign bodies must be removed, consult a doctor if necessary.  
Beware of metal splinters - Consult a doctor immediately.

• **After swallowing:** Consult a doctor if the symptoms persist.

• **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 Firefighting measures

• **Extinguishing media**

• **Suitable extinguishing agents:**

Non-combustible.  
Extinguishing agents must be adapted to the environment.

• **Special hazards arising from the substance or mixture**

In the event of a fire, dangerous/toxic fumes or vapours may be produced. Do not inhale fumes.

• **Advice for firefighters**

• **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

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

• **Personal precautions, protective equipment and emergency procedures** No special measures 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.

(Contd. on page 3)

Trade name: **VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**

See Section 13 for disposal information.

(Contd. of page 2)

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**

Danger of accident!

Always wear protective clothing, protective glasses and safety gloves when handling the bands.

- The bands have sharp edges. There is a danger of (serious) injury from cuts.
- The bands can split and cause (serious) cuts when bent excessively.

The appropriate industrial and environmental safety measures must be taken for processing steps which cause dust or fumer (see also section 8):

No more 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.

- **Information about protection against explosions and fires:** No special measures required.

- **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:**

Store sealed in a condensation-proof aluminium composite foil with a desiccant.

Seal again air-tight when removing part of contents.

- **Storage class:** Not applicable

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

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:**

Provide a suitable suction with filter and good ventilation of the working area for all processing steps.

Suitable breathing apparatus must be used (see personal safety equipment) for repair and maintenance work on suction systems, especially when changing the filters.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

### 7440-50-8 copper

EL (Canada)	1* 0.2** mg/m <sup>3</sup> *dusts and mists; **fume
EV (Canada)	0.2* 1** mg/m <sup>3</sup> as copper, *fume; **dust and mists
PEL (USA)	1* 0.1** mg/m <sup>3</sup> as Cu *dusts and mists **fume
REL (USA)	1* 0.1** mg/m <sup>3</sup> as Cu *dusts and mists **fume
TLV (USA)	1* 0.2** mg/m <sup>3</sup> *dusts and mists; **fume; as Cu

(Contd. on page 4)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 01/26/2012

Reviewed on 01/26/2012

Trade name: **VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**

(Contd. of page 3)

7440-31-5 tin	
EL (Canada)	2 mg/m <sup>3</sup>
EV (Canada)	2* 0.1** mg/m <sup>3</sup>
	*metal, oxide, inorg. compds.; **org. compds.: Skin
PEL (USA)	2 mg/m <sup>3</sup>
	metal
REL (USA)	2 mg/m <sup>3</sup>
TLV (USA)	2 mg/m <sup>3</sup>
	metal
7440-02-0 nickel	
EL (Canada)	0.05 mg/m <sup>3</sup>
	as Ni; ACIGH A1, IARC 1
EV (Canada)	1* 0.2** 0.1*** mg/m <sup>3</sup>
	inh.; *metal; **insol. compds.; ***soluble compds.
PEL (USA)	1 mg/m <sup>3</sup>
REL (USA)	0.015 mg/m <sup>3</sup>
	as Ni; See Pocket Guide App. A
TLV (USA)	1.5* 0.2** 0.1*** mg/m <sup>3</sup>
	inhal.fraction; *elemental; **insol., ***sol.compds.

• **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.  
Wash hands before breaks and at the end of work.

• **Breathing equipment:**



In the case of exceeding the limit values, 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:**



Wearing of gloves with a high cutting protection class is recommended for handling the bands.

The following applies due to the ingredients:

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:**



Tightly sealed goggles (EN 166)

• **Limitation and supervision of exposure into the environment**

The legal issue values and limitations are to be paid attention!

USA

(Contd. on page 5)

# Material Safety Data Sheet

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Printing date 01/26/2012

Reviewed on 01/26/2012

Trade name: **VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**

(Contd. of page 4)

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Strip
Color:	Metallic
Odor:	Odourless

- **pH-value:** Not applicable.

- **Change in condition**

**Melting point/Melting range (approx):** 650°C

- **Auto igniting:** Not applicable

- **Danger of explosion:** Explosive when mixed with oxidizing substances.  
Not applicable

- **Vapor pressure:** Not determined.

- **Density (approx) at 20°C:** 8.3 g/cm<sup>3</sup>

- **Relative density:** Not determined.

- **Solubility in / Miscibility with**

**Water:** Insoluble.

- **Other information:** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**

- **Chemical stability**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

- **Possibility of hazardous reactions**

Hydrogen is released in contact with acid which can cause explosive gas mixtures.

Phosphin (toxic gas) can form in contact with acids!

- **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:**

The following applies for the pure substance (here: nickel):

**7440-02-0 nickel**

Oral	LD50	> 9000 mg/kg (rat)
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- **Primary irritant effect:**

- **on the skin:** see sensitization

- **on the eye:**

Irritation of the eyes in the case of massive direct contact will be mainly due to mechanical effects depending on the grain size.

- **Sensitization:**

In the case of repeated and prolonged contact with the skin with metallic nickel there is a possibility of sensitization.

- **Subacute to chronic toxicity:**

Nickel in the form of a respirable dust is under suspicion as a possible cause of cancer in humans (Carc.2 (Cat. 2) / CLP-Verordnung)

(Contd. on page 6)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 01/26/2012

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Trade name: **VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**

(Contd. of page 5)

• **Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

## 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.
- **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:** Observe official regulations.
- **Uncleaned packagings:** Not applicable

## 14 Transport information

- **Transport/Additional information:**
- **Land transport DOT / TDG**
- **Remarks:** Non-hazardous goods from the standpoint of the specified regulations
- **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

## 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):**

7440-50-8	copper
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7440-02-0	nickel
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7723-14-0	red phosphorus
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• **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

• **Proposition 65**

• **Chemicals known to cause cancer:**

7440-02-0	nickel
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• **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

(Contd. on page 7)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 01/26/2012

Reviewed on 01/26/2012

Trade name: **VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**

(Contd. of page 6)

**• 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.

**• Cancerogenity categories**

**• EPA (Environmental Protection Agency)**

7440-50-8	copper	D
7723-14-0	red phosphorus	D

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

7440-02-0	nickel	2B
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**• NTP (National Toxicology Program)**

7440-02-0	nickel	R
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**• TLV (Threshold Limit Value established by ACGIH)**

7440-02-0	nickel	A5
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**• MAK (German Maximum Workplace Concentration)**

7440-31-5	tin	4
7440-02-0	nickel	1

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

7440-02-0	nickel	
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**• OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**• National regulations:**

**• Other regulations, limitations and prohibitive regulations**

- e.g.
- guidelines 67/548/ECC, 1999/45/EC
  - 1272/2008/EG (CLP)
  - 1907/2006/EG (REACH)
  - German Hazardous Substances

**• Chemical safety assessment:** Void (for articles)

## 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:

- H228 Flammable solid.
- H317 May cause an allergic skin reaction.
- H351 Suspected of causing cancer.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H412 Harmful to aquatic life with long lasting effects.
- R11 Highly flammable.
- R16 Explosive when mixed with oxidizing substances.
- R40 Limited evidence of a carcinogenic effect.
- R43 May cause sensitization by skin contact.
- R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**• Department issuing MSDS:**

Department HT-F  
Tel. 06181/38-2045

(Contd. on page 8)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 01/26/2012

Reviewed on 01/26/2012

Trade name: **VITROBRAZE 2250<sup>®</sup>, 2255<sup>®</sup>**

(Contd. of page 7)

• **Contact:**

Environmental Protection Department  
Tel. 06181/38-2359

• **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organization  
ACGIH: American Conference of Governmental Industrial Hygienists  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

• **Sources**

- KÜHN-BIRETT-Merkblätter gefährlicher Arbeitsstoffe
- Technische Regeln für Gefahrstoffe
- BIA-Gefahrstoffdatenbank

USA