Information sheet for articles

Trade names:

Unalloyed and alloyed steels as well as non-ferrous metals with the following material numbers:

Unalloyed steels and carbon steels:
1.0338 – 1.1248 – 1.1274 – 1.2003 – 1.2379

Stainless hardened steels:
1.4021 – 1.4031Mo – 1.4034 – 1.4037

Stainless chromium-nickel-steels:
1.4301 – 1.4310 – 1.4404 – 1.4529 – 1.4571 – 1.4767 – 1.4828

Non-ferrous metals and alloys:
1.3912 – 1.3981 - 2.0070 – 2.0321 – 2.1020 – 2.4068 – 2.4545 – 2.4668

Aluminium and Aluminium alloys:
3.0205 and EN-AW 8079 (without alloy number)

Issue: 13. October 2023

Preliminary remark

Semi-finished products supplied by h+s Präzisionsfolien GmbH are products within the meaning of Regulation (EC) No. 1907/2006 (REACH Regulation).

According to REACH and the European Regulation (EC) 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP = Classification, Labelling and Packaging), a safety data sheet (SDS) is only required for substances and preparations. There is no legal obligation to create a safety data sheet for a product.

While articles under REACH do not require a formal safety data sheet, Article 32 of REACH requires that articles be accompanied by sufficient information to enable safe use and disposal.

To meet this requirement, we have developed a Safety Information Sheet (SIS) that provides information about the safe use of the steels and their potential effects on human health and the environment.

We expressly point out that this information sheet for products is a voluntary information

sheet that is not subject to the formal requirements of the REACH regulation.
The information sheets also do not meet the requirements for Material Safety Data Sheets (MSDS) for the USA; which must be created in accordance with OSHA and ANSI guidelines.

In their current composition, the semi-finished products do not contain any substances from the candidate list in concentrations above 0.1 percent by mass in accordance with Article 59 of the REACH Regulation.

If a substance used is included in the candidate list, the customer will be informed within 45 days in accordance with Article 33 of the REACH Regulation.

The information sheets are available in two languages (German and English) on our webseite www.hs-folien.de.

Section 1: Identification of the article and of the company:

1.1 Product identifier

- Unalloyed steels, carbon steels and tool steels with ferritic or martensitic or ledeburitic structure
- stainless steels with ferritic, martensitic or austenitic structure
- Non-ferrous metals and alloys

as a solid, compact and non inhalable metal in the product form cold strip or hot-rolled and piece-hardened plates

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

Identified uses:
As a steel material in semi-finished form for further processing for products e.g. B. tool making, the spring industry, the consumer goods sector, vehicle technology, construction, apparatus engineering.

As non-ferrous metals and alloys in semi-finished form for further processing for products in the spring industry, the consumer sector, vehicle technology, construction, apparatus construction and other applications.

Uses advised against:
No information available

1.3 Details on the supplier of the information sheet for articles

Manufacturer/Supplier:
h+s Präzisionsfolien GmbH
Am Forst 10,
D – 92648 Vohenstrauss
Tel.: + 49 (0)9651 92 401 -0
Web site: www.hs-folien.de
E-Mail: info@hs-folien.de

1.4 Information in case of emergency:
Factory security office
Tel.: +49 (0) 9651 92 401 -0 (Monday – Friday from 9 a.m to 4 p.m.)

Contact point for medical information:
Tel. +49 (0) 89 192 40 (Giftnotruf München)

Section 2: hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EG) No. 1272/2008 (CLP-Regulation)
Articles do not fall within the scope of the CLP Regulation and are therefore not classified.

2.2. Label elements (from page 504 in der EU-Regulation 2008/272)
Labelling according to Regulation (EG) No. 1272/2008 (CLP)
Hazard pictograms:
GHS02 – Symbol Flame
GHS07 – Symbol exclamation mark
GHS08 – Symbol Health hazard
GHS09 – Symbol Environment

Signal words : Danger – Dgr, Warning – Wng

Hazardous components for labelling: nickel, cobalt, phosphorus as well as aluminium and zinc (as powder), if these are contained in the articles

Danger warnings (from page 53 in der EU-Regulation 2008/272):

H 228	Flammable solid
H 261	Flammable gases are produced in contact with water
H 317	can cause allergic skin reactions
H 334	may cause allergy, asthma-like symptoms or breathing difficulties if inhaled
H 341	can probably cause genetic defects
H 350	can cause cancer
H 351	can probably cause cancer
H 360F	can affect fertility
H 372	causes damage to organs through prolonged or repeated exposure
H 400	Very toxic to aquatic organisms
H 410	Very toxic to aquatic life with long lasting effects
H 412	Harmful to aquatic organisms, with long-term effect
H 413	may have long-term harmful effects on aquatic organisms

Safety instructions (from page 372 in the EU-Regulation 2008/272):

P 201	obtain special instructions before use
P 280	Wear protective gloves, protective clothing and eye protection
P 304/340	If inhaled: move the person to fresh air and ensure unhindered breathing
P308+313	If exposed or affected: seek medical advice and attention
P 342+311	If you have respiratory symptoms: call a poison control center or doctor

Additional labelling elements:
“for commercial users only”

2.3. Other hazards

PBT-assessment
No testing required according to Annex XIII of Regulation (EC) 1907/2006 (REACH), as not applicable to metals.

vPvB-assessment
No testing required according to Annex XIII of Regulation (EC) 1907/2006 (REACH), as not applicable to metals.

Section 3: Composition/information on ingredients

3.1. Substances
Not applicable. The articles are not substances.

3.2. Chemical characterisation: Mixtures
Description: Metal in compact form, in different alloy composition from the chemical elements specified below

The information listed below reflects the classification of the relevant alloy components and is for informational purposes only.
The percentages given are guide values.

List of harmonized classification and labelling of dangerous substances, according to the EU Directive (EC) 1272/2008 (CLP),
Table 3.1 (pages 552-1523 in EU Directive 2008/272):

International chemical name	Weight-%	Index-No.	CAS-No.	EG-No. (EINECS)	classification		Labelling	
					Coding of hazard classes and categories *	Coding of danger warnings	Pictogram, coding of the signal words	Coding of danger warnings
Carbon (C)	0-2,0%		7440-44-0	**931-328-0**	Not specified			
Chromium (Cr)	0-30%		7440-47-3	**231-157-5**	Not specified			
Copper (Cu)	Max. 100%		7440-50-3	**231-159-6**	Not specified			
Manganese (Mn)	Max. 10%		7439-96-5	**231-105-1**	Not specified			
Molybdenum (Mo)	Max. 7%		7439-98-7	**231-107-2**	Not specified			
Nickel (Ni)	Max. 100%	028-002-00-7	7440-02-0	**231-111-4**	Carc. 2 STOT RE 1 Skin Sens. 1	H351 H372 H317	GHS08 GHS07 Dgr	H351 H372 H317
Phosphor (P)	Max. 0,20% (in Bronze)	015-002-00-7	7723-14-0	**231-768-7**	Flam. Sol. 1 Aquatic Chronic 3	H228 H412	GHS02 Dgr	H228 H412
Silicon (Si)	Max. 3%		7440-21-3	**231-130-8**	Not specified			

Sulphur (S)	Max. 0,15%		7704-34-9	**231-722-6**	Not specified			
Vanadium (V)	Max. 1%		7440-62-2	**231-171-1**	Not specified			
Aluminium (Al)	Max. 100%	013-002-00-1	7429-90-5	**231-072-3**	Water-react. 2 Flam Sol 1 (only as powder)	H261 H228	GHS02 Dgr	H261 H228
Boron (B)	Max. 0,01%		7440-42-8	**231-151-2**	Not specified			
Iron (Fe)	Max. 100%		7439-89-5	**231-096-4**	Not specified			
Zircon (Zr)	Max. 1%		7440-67-2	**231-176-9**	Not specified			
Titanium (Ti)	Max. 1% (in 1.4571)		7440-32-6	**231-142-3**	Not specified			
Cobalt (Co)	Max. 18% (in Alloy K, 1.3981)	027-001-00-9	7440-48-4	**231-158-0**	Carc. 1B Muta. 2 Repr. 1B Resp.Sens. 1 Skin Sens. 1 Aquatic Chronic 4	H350 H341 H360F H334 H317 H413	GHS08 Dgr	H350 H341 H360F H334 H317 H413
Niobium (Nb)	Max. 6% (in Alloy 718, 2.4668)		7440-03-1	**231-113-5**	Not specified			
Tin (Sn)	Max. 8% (in bronze)		7440-31-5	**231-141-8**	Not specified			
Zinc (Zn)	Max. 38% (in brass)	030-001-01-9	7440-66-6	**231-175-3**	Aquatic Acute 1 Aquatic Chronic 1 (only as powder)	H400 H410	GHS09 Wng	H410

* in accordance with the correction of January 27, 2022 to Commission Regulation (EU) 2018/669 of April 16, 2018

Hints:
Regarding aluminium: during further processing, dusts can arise that behave similarly to aluminium powder.
Regarding zinc: only contained in large quantities in brass, but dissolved in the alloy (not as powder)
to phosphorus: only contained in bronze in a percentage of max. 0.20%, otherwise only contained in traces

Section 4: First aid measures

4.1. Description of first aid measures

The steels in paragraph 1 do not have any hazardous substance effects that require any first aid measures. The following information refers to the effects of smoke and dust during processing.

Remove contaminated clothing and shoes immediately and clean thoroughly before reuse. If symptoms persist, a doctor must be consulted. In the event of allergic symptoms (particularly in the respiratory area), seek medical advice immediately.

After Inhalation:	Plenty of fresh air to be on the safe side, consult a doctor
When unconscious:	Storage and transport in a stable side position
After skin contact:	Wash off immediately with soap and water and rinse well
After eye contact:	Rinse eyes under running water for several minutes with the eyelids open. If symptoms persist, consult a doctor.

After swallowing: Rinse your mouth and drink plenty of water

4.2. Most important symptoms and effects, both acute and delayed:
Symptoms: Possibly cough, shortness of breath, allergic symptoms

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:
Match extinguishing measures to the surrounding fire, dry sand

Non-suitable extinguishing agents:
Water

5.2. Special hazards arising from the substance or mixture:
In the event of a fire, toxic gases and fumes can be released

5.3. Advice for firefighters:
Use self-contained breathing apparatus (heavy duty respiratory protection) and wear protective clothing

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Non-emergency trained staff
Observe protective regulations (see sections 7 and 8).
Avoid dust formation and ensure adequate ventilation

emergency services
Wear personal protective equipment (see section 8)

6.2. Environmental precautions:
Do not allow to enter drains/surface water/groundwater.

6.3. Methods and material for containment and cleaning up:
Collect the material and, if necessary, dispose of it as waste in accordance with Section 13 or recycle it if possible. However, avoid the development of dust.

6.4. Reference to other sections:
Information on safe handling: see section 7
Information on personal protective equipment: see section 8
Disposal information: see section 13

Section 7: Handling and storage

7.1. Precautions for safe handling:

Advice for safe handling

The risk when handling the product must be reduced to a minimum by applying protective and preventive measures. The working process should, if possible based on the current state of technology, be designed in such a way that dangerous substances are not released or skin contact can be ruled out.

General protective and hygiene measures

Do not smoke, eat or drink at work. Keep away from food and beverages. Do not breathe in dust. Avoid contact with eyes and skin. Wash hands before breaks and at the end of work.

Remove contaminated clothing and shoes and clean thoroughly before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Store dry

Requirements for storage rooms and containers

No special requirements

Storage instructions

Substances to avoid, see section 10

7.3. Specific end uses:

No further relevant information available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Limit values in the air at the workplace according to TRGS 900 (“air limit values”)

Material	*CAS-No.*	*Art*	*Value* (mg/m³)*
Aluminium	7429-90-5		ASG
Aluminium oxide	1344-28-1		ASG
Chromium(VI)-Compounds, except those insoluble in water – Manual arc welding with coated stick electrodes – moreover		 TRK TRK	 0,1 E 0,05 E
Iron(II) oxide	1345-25-1		ASG
Iron(III) oxide	1309-37-1		ASG
Copper	7440-50-8	MAK	1 E
Copper smoke	7440-50-8	MAK	0,1 A
Manganese	7439-96-5	MAK	0,5 E
Molybdenum (and insoluble molybdenum compounds)	7439-98-7		ASG
Nickel as Nickel metal	7440-02-0	MAK	0,5 E
compounds in the form of			0,05 E

Material	*CAS-No.*	*Art*	*Value* (mg/m³)*
respirable droplets			
Nickel oxides	1313-99-1	TRK	0,5 E
Niobium (and insoluble niobium compounds)	7440-03-1	MAK	5 E
Titan dioxide	13463-67-7		ASG

* E: Inhalable fraction
* A: Alveolar fraction
* ASG: Allgemeiner Staubgrenzwert (General dust limit value)

8.2. Exposure controls

General protective and hygiene measures

Keep away from food, drinks and feed.
Ensure good ventilation. This can be achieved using local or room exhaust ventilation. If this is not sufficient to keep substance concentrations below airborne limits, appropriate respiratory protection equipment must be worn.

Personal protective equipment:

Respiratory protection:

Do not breathe dust, smoke or mist.
If the workplace limit values are exceeded, a suitable respiratory protective device must be worn. If there are no workplace limit values, adequate respiratory protection measures must be taken if dust forms (breathing filter 3)

Eye and face protection

Depending on the further processing, wearing safety glasses (tight-fitting safety glasses according to DIN EN 166) is recommended.

Hand protection

Protective gloves adapted to the further processing of the semi-finished products must be used. The protective glove should always be tested for its workplace-specific suitability (e.g. mechanical resistance (cut protection) and product compatibility).
Cut protection gloves must be worn when handling and processing strips and metal foils.
The glove manufacturer's instructions and information regarding use, storage, care and replacement of gloves must be followed.
The protective gloves should be replaced immediately if they are damaged or show signs of wear.
The work processes should be designed in such a way that gloves do not have to be worn constantly.

Body protection

Use appropriate protective clothing and wear safety shoes after further processing.
Make sure that protective clothing is stored separately.

Limiting and monitoring environmental exposure

no information available

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state at room temperature:	solid
Melting point/melting range:	600-1600°C depending on the metal or alloy
Boiling point:	max. approx. 2700°C
Flash point:	not applicable
Danger of explosion:	not applicable
Oxidizing properties:	not applicable
Vapour pressure:	not applicable
Specific density:	2.9-8.9 kg/dm³ depending on the metal or alloy
Water and fat solubility:	insoluble
Auto-ignition temperature:	not applicable
Appearance:	silver grey (aluminium, steels and stainless steels, nickel and nickel alloys, yellowish (brass), reddish to brownish (for copper and bronze)
Odour:	odourless

9.2. Other information

No further relevant information available

Section 10: Stability and reactivity

10.1. Reactivity:

not applicable

10.2. Chemical Stability:

No decomposition if stored and used as intended
(see section 7)

10.3. Possibility of hazardous reactions:

Exothermic reactions possible upon contact with incompatible substances

10.4. Conditions to avoid

No further relevant information available

10.5. Incompatible materials:

Oxidants and acids

10.6. Hazardous decomposition products:

No dangerous decomposition products known.

Section 11: Toxicological information

11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

Ingestion via inhalation or swallowing:
The steels and non-ferrous metals according to paragraph 1, which are present as compact solids, cannot normally be inhaled or swallowed. Regardless, they would not have any acute toxic effects if taken orally or inhaled.
Of the alloying elements in paragraph 2, nickel metal is classified as a category 3 carcinogen according to Directive 67/548/EEC (i.e. “a substance which gives cause for concern because of possible carcinogenic effects in humans, but about which there is insufficient information to make a satisfactory assessment). available”). The relevant route of absorption is inhalation. According to Directive 1999/45/EC, all preparations with at least 1 percent nickel by mass are subject to the same hazardous substance classification as nickel metal (see paragraph 3), although e.g. B. Steels have completely different chemical properties than their alloying elements. A carcinogenic effect caused by the production, use, machining or processing of steels in accordance with paragraph 1 could not be proven in epidemiological studies or in animal experiments carried out under extreme stress.
Mechanical and thermal processing processes (e.g. grinding, cutting, welding) can produce smoke and dust that contain oxides of alloy metals. They can impair health in the case of acute overexposure (metal fever) and, in the case of chronic exposure, lead to damage, mainly to the lungs. However, studies on people who were exposed to nickel-containing dust and smoke during the production of nickel alloys and stainless steels did not show an increased risk of cancer of the respiratory organs.
Processing operations such as welding or flame cutting where the material reaches high temperatures can result in the formation of compounds containing hexavalent chromium. Some compounds containing hexavalent chromium are carcinogenic. However, epidemiological studies in humans have shown that welding stainless steels does not lead to an increased risk of cancer compared to the slightly increased risk generally associated with welding chrome-free steels.

Absorption via skin contact:
According to Directive 67/548/EEC, nickel is classified as sensitizing by skin absorption, i.e. i.e., it is effective against susceptible people through prolonged, direct skin contact, such as e.g. B. is often the case when wearing jewelry, sensitizing. According to Directive 1999/45/EC, all preparations with at least 1 percent nickel by mass must also be classified as sensitizing (see paragraph 3). This also applies to corresponding nickel-alloyed stainless steels according to paragraph 1, although they have not proven to be sensitizing in studies. Furthermore, if the surface is designed according to the material, these steels do not lead to allergic reactions in people who are already sensitized, even after prolonged direct skin contact.

11.2 Information about other dangers

Endocrine disrupting properties
no information available

Other Information
no information available

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. Bio accumulative potential:
No further relevant information available

12.4. Mobility in soil
No further relevant information available

12.5. Results of PBT- and vPvB-assessment
PBT: not applicable to metals
vPvB: not applicable to metals

12.6 Endocrine disrupting properties
no information available

12.7. Other adverse effects
no information available

Section 13: Disposal considerations

13.1. Waste treatment methods
Products
Steel scrap is a valuable raw material and can easily be recycled via proven recycling channels. Disposal in landfills would not be harmful to the environment, but would be a waste of natural resources and should therefore be avoided.
The steels and non-ferrous metals according to paragraph 1 do not lead to contamination of the packaging materials used.

Waste code for the product and product residues:

- 17 04 05, Iron and steel
- 17 04 01, Non-ferrous metals such as copper, bronze, brass
- 17 04 07, Mixed metals

Packagings
Packaging must be disposed of properly in accordance with the legal regulations of the country of use.
In accordance with Section 15 Paragraph 1 Sentence 5 VerpackG, we would like to point out that, upon request, we will take back the transport packaging of our products in accordance with the provisions of Section 15 Paragraph 1 VerpackG. By returning it, you help ensure that undamaged packaging can be used again. If possible, we return damaged packaging to the material cycle or dispose of it professionally.
However, you are not obliged to return the transport packaging to us.

Section 14: Transport information

14.1. UN-Number or ID-Number
ADR, ADN, IMDG, IATA: Void

14.2. UN proper shipping name
ADR, ADN, IMDG, IATA: Void

14.3. Transport hazard classes
ADR, ADN, IMDG, IATA: Void

14.4. Packing group
ADR, ADN, IMDG, IATA: Void

14.5. Environmental hazards
Not applicable

14.6. Special precautions for users
Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not dangerous goods in the sense of transport regulations.

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulations
According to the available data, the products do not contain any substances that are considered substances subject to authorization under the REACH Regulation (EC) 1907/2006.

15.2. Chemical safety assessment
Not applicable

Section 16: Other information

Laws, guidelines and regulations taken into account in this safety data sheet:

EG/EU:
Preparation Directive 1999/45/EC,
Substances Directive 67/548/EEC with adjustments up to 2001/59/EC,
Safety data sheet directive 91/155/EEC with adaptations 93/112/EC and 2001/58/EC,
Restriction Directive 76/769/EEC
Regulation (EC) No. 1907/2006 (REACH)
Regulation (EC) No. 1272/2008 (CLP)

Germany:
Chemicals Act of June 20, 2002 (last changed May 13, 2004),
Hazardous Substances Ordinance, edition of December 23, 2004 with amendments of the same date,
Federal Immission Control Act of March 15, 1974 with adjustments until June 25, 2005,
Technical rules for hazardous substances - safety data sheet (TRGS 220), April 2002 with adjustments up to BarbBl, issue 1/2003,
Technical rules for hazardous substances - “Air limit values” (TRGS 900), October 2000 edition with adjustments up to BarbBl, issue 7/8-2004,

Technical rules for hazardous substances - justifications and explanations for limit values in the air at the workplace (TRGS 901), April 1997 edition with adjustments up to BarbBl, issue 6/2004,
Technical rules for hazardous substances - list of carcinogenic, mutagenic or reproductively toxic substances (TRGS 905), July 2005 edition,
BIA Report 1/2004: Hazardous Substances List 2004 - Hazardous Substances in the Workplace

Literature sources:
H. J. Cross, J. Beach, L. S. Levy, S. Sadhra, T. Sorahan, C. McRoy:
Manufacture, Processing and Use of Stainless Steel: A Review of the Health Effects. Prepared for Eurofer by the Institute of Occupational Health, University of Birmingham, 1999.

P.J. Cunat:
Chromium in Stainless Steel Welding Fumes. The Chromium File No. 9, April 2002, International Chromium Development Association.

R. Doll et al.:
Report of the International Committee on Nickel Carcinogenesis in Man. Scand. J. of Work Environment and Health. 1990, 16, 1-82.

P. Haudrechy et al.:
Nickel Release from Nickel-plated Metals and Stainless Steels. Contact dermatitis. 1990, 31, 249-255.

The safety data sheet describes the safety requirements of the products.
The information is based on the current state of knowledge and experience, but does not represent a guarantee of product properties and does not establish a contractual legal relationship.

Issue: October 13, 2023