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

1.1. Product identifier

FINOLLOY CoCr Solder

REF 42009/ 42009P

Product group:	Metalle
CAS No:	-
Index No:	-
EC No:	-

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

Use of the substance/mixture

Auxiliary for manufacture of dental prothesis Base metals and alloys
Welding and soldering agent, flow modifier

Uses advised against

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this mixture.

1.3. Details of the supplier of the safety data sheet

Company name:	FINO GmbH	
Street:	Mangelsfeld 18	
Place:	D-97708 Bad Bocklet	
Telephone:	+49-97 08-90 94 20	Telefax: +49-97 08-90 94 21
e-mail:	info@fino.com	e-mail: info@fino.com
Contact person:	Joachim Mahlmeister	Telephone: +49-97 08-90 94 20
Internet:	www.fino.com	
Responsible Department:	This number can only be reached during our office hours, Monday to Friday from 8 a.m. to 5 p.m.	

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Respiratory or skin sensitisation: Resp. Sens. 1
Respiratory or skin sensitisation: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity - repeated exposure: STOT RE 1
Hazardous to the aquatic environment: Aquatic Chronic 4
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.
May cause long lasting harmful effects to aquatic life.

Not applicable to material in this form.
Compact metal/alloy without hazards for human health or environment This mixture does not contain any substances which either present a health or environmental hazard according to Regulation (EC) No. 1272/2008 or have an occupational exposure limit assigned.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

cobalt
nickel

Signal word: Danger

Pictograms:

Hazard statements

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs (-) through prolonged or repeated exposure if inhaled.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary statements

P260	Do not breathe dust.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Special labelling of certain mixtures

none

Additional advice on labelling

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

2.3. Other hazards

If handled according to specifications and if occupational-hygienic directives are observed a health hazard is unlikely. Dusts, vapours and fumes that form during processing must not be inhaled.
SECTION 3: Composition / information on ingredients
Results of PBT and vPvB assessment not applicable.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Not applicable. Product is not a substance.

Sum formula:	Co
Molecular weight:	58,93 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7440-48-4	cobalt			61,0 %
	231-158-0	027-001-00-9		
	Resp. Sens. 1, Skin Sens. 1, Aquatic Chronic 4; H334 H317 H413			
7440-47-3	Chromium			28,5 %
	231-157-5			
7440-21-3	Silicon			4,0 %
	231-130-8			
	Flam. Sol. 2, Eye Irrit. 2; H228 H319			
7439-98-7	Molybdenum			3,5 %
	231-107-2			
7439-89-6	Iron			1,5 %
	231-096-4			
	Flam. Sol. 2; H228			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7440-48-4	231-158-0	cobalt	61,0 %
	oral: LD50 = 6170 mg/kg		
7440-21-3	231-130-8	Silicon	4,0 %
	oral: LD50 = 3160 mg/kg		

Further Information

The information is not applicable to the alloy but only to the vapours, fumes and dusts that might form during processing.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

After inhalation

Do not inhale fumes or dust, which form during laser welding.
Provide fresh air. Remove victim out of the danger area.
Seek medical attention if problems persist.

After contact with skin

After contact with molten product, cool skin area rapidly with cold water.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Call a physician immediately.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.
Metal powder; Sand

Unsuitable extinguishing media

Water; Foam; Carbon dioxide; Dry extinguishing powder

5.2. Special hazards arising from the substance or mixture

No further data.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Usual measures for fire prevention. Wear protective gloves/protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

Provide adequate ventilation. Do not breathe vapour.
Avoid dust formation.
Observe precautionary regulations.

6.2. Environmental precautions

Retain contaminated washing water and dispose it.
Do not allow to enter sewers/surface or ground water. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

Other information

Take up mechanically. Avoid dust formation.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Treat the recovered material as prescribed in the section on waste disposal. Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Advice on protection against fire and explosion

Dust can form an explosive mixture with air.
Take precautionary measures against static discharges. Keep away from sources of ignition - No smoking.

Further information on handling

Wash hands before breaks and after work.
When using do not eat or drink.
Remove contaminated, saturated clothing immediately.
Keep away from food, drink and animal feedingstuffs.
Do not breathe dust.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.

Hints on joint storage

Do not store together with: Dust explosibility Substances

Further information on storage conditions

No special precautionary measures.

Betriebssicherheitsverordnung (BetrSichV) ---

7.3. Specific end use(s)

Auxiliary for manufacture of dental prothesis Base metals and alloys

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
7440-47-3	Chromium	-	0.5		TWA (8 h)	WEL
7440-44-0	Graphite, inhalable dust	-	10		TWA (8 h)	WEL
7440-21-3	Silicon, respirable dust	-	4		TWA (8 h)	WEL

Additional advice on limit values

If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

8.2. Exposure controls

Appropriate engineering controls

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Protective and hygiene measures

Observe normal precautions when working with chemicals.
Wash hands before breaks and after work. When using do not eat or drink.
Change contaminated, saturated clothing. Avoid contact with eyes and skin.
Do not breathe dust/fume/gas/mist/vapours/spray. Caution! Hot molten mass.

Eye/face protection

Protective goggles with side protection recommendable. DIN EN 166

Hand protection

If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
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.
The precise time of rupture can be found out from the manufacturer of the protective gloves and must be observed.

Skin protection

Wear suitable protective clothing.
lab coat.

Respiratory protection

If workplace exposure limits are exceeded, respiratory protection must be worn. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	silver grey

Odour:	odourless
pH-Value:	void

Changes in the physical state

Melting point:	1020 - 1150 °C
Boiling point or initial boiling point and boiling range:	not determined
Softening point:	not determined
Flash point:	not determined
Sustaining combustion:	No data available

Flammability

Solid/liquid:	not determined

Explosive properties

not explosive.

Lower explosion limits:	---
Upper explosion limits:	---
Auto-ignition temperature:	not determined

Self-ignition temperature

Solid:	not determined
Decomposition temperature:	not determined

Oxidizing properties

Not oxidising.

Vapour pressure:	---
Density:	8,2 - 8,5 g/cm³
Bulk density:	not determined
Water solubility:	Immiscible

Solubility in other solvents

no classification

Partition coefficient n-octanol/water:	not applicable
Viscosity / dynamic:	not applicable
Relative vapour density:	not determined
Evaporation rate:	not determined
Solvent separation test:	The study does not need to be conducted because the substance is known to be insoluble in water.
Solvent content:	not applicable

9.2. Other information

Solid content:	100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Dusts that form during processing (e.g. through casting, grinding) may in extreme cases lead to dust explosions.

10.5. Incompatible materials

Acid

10.6. Hazardous decomposition products

No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-48-4	cobalt				
	oral	LD50 6170 mg/kg	Rat	GESTIS	
7440-21-3	Silicon				
	oral	LD50 3160 mg/kg	Ratte:		

Irritation and corrosivity

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

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled . (cobalt)
May cause an allergic skin reaction. (cobalt)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
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.

Specific effects in experiment on an animal

Toxicological analyses are not available.

Additional information on tests

Caution! Hot molten mass. Contact of the product with skin and eyes should be avoided as well as the inhalation of product fumes. If the threshold values for metals are exceeded acute intoxications may occur, which result in nausea, vomiting and abdominal pain.

Practical experience

No special references.

11.2. Information on other hazards

Other information

No special precautionary measures.

SECTION 12: Ecological information

12.1. Toxicity

Gather dusts, which develop during operation, with dust extraction systems and dispose of as hazardous waste according to the respective regulations. Do not allow uncontrolled discharge of product into the environment.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
7440-48-4	cobalt					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Brachydanio rerio		
7440-47-3	Chromium					
	Acute fish toxicity	LC50 40,5 mg/l	96 h			
	Acute algae toxicity	ErC50 8,75 mg/l	72 h			

12.2. Persistence and degradability

none Evidence exists for biodegradation processes.

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB .

12.7. Other adverse effects

No effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Remove according to the regulations. Consult the appropriate local waste disposal expert about waste disposal.

List of Wastes Code - residues/unused products

170407 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES); metals (including their alloys); mixed metals

List of Wastes Code - used product

170407 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES); metals (including their alloys); mixed metals

Contaminated packaging

Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	UN 0000
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:	UN 0000
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number: UN 0000

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 0000

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No special measures are necessary.

14.7. Maritime transport in bulk according to IMO instruments

No special precautionary measures.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

2004/42/EC (VOC): no classification

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information: 0

Additional information

According to EC directives or the corresponding national regulations the product does not have to be labelled.

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

Additional information

Betriebssicherheitsverordnung (BetrSichV) ---

No further data.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

* Data changed compared with the previous version

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)
"IATA-DGR: Dangerous Goods Regulations by the ""International Air Transport Association"" (IATA)"
ICAO: International Civil Aviation Organization
"ICAO-TI: Technical Instructions by the ""International Civil Aviation Organization"" (ICAO)"
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

GHS: Globally Harmonized System of Classification and Labelling of Chemicals
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)
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Carc. 2: Carcinogenicity, Hazard Category 2
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1
Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4

Relevant H and EUH statements (number and full text)

H228	Flammable solid.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351	Suspected of causing cancer.
H372	Causes damage to organs (-) through prolonged or repeated exposure if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H413	May cause long lasting harmful effects to aquatic life.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

Identified uses

No	Short title	LCS	SU	PC	PROC	ERC	AC	TF	Specification
1	Legierung	-	14	38	25	4	7	-	7440-47-3

LCS: Life cycle stages
SU: Sectors of use
PC: Product categories
PROC: Process categories
ERC: Environmental release categories
AC: Article categories
TF: Technical functions

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)