

Safety Data Sheet according to Regulation (EC) No 1907/2006

Castolin Eutectic GmbH

Revision No: 2021.0

SDS 00296

EutecTrode N9060

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

1.1. Product identifier

EutecTrode N9060

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

Use of the substance/mixture

Welding rod, welding wire, ,

1.3. Details of the supplier of the safety data sheet

Company name:	Castolin Eutectic Limited UNIT 3, OAK TREE PARK GB-B98 9NW REDDITCH, WORC'S.	Castolin Eutectic GmbH Gutenbergstrasse 10 D-65830 Kriftel
Telephone:	+44 (0) 1527 5822 00	+49 (0) 6192 403 0
Telefax:	+44 (0) 1527 5822 01	+49 (0) 6192 403 314
e-mail:	castolin@castolin.co.uk	castolin@castolin.com

Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone number:

In England and Wales: NHS 111 In Scotland: NHS 24 - dial 111
Emergency telephone :+49 (0) 6132 / 84463 (GBK GmbH, Ingelheim)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Acute toxicity: Acute Tox. 4

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Resp. Sens. 1

Respiratory or skin sensitisation: Skin Sens. 1

Germ cell mutagenicity: Muta. 2

Carcinogenicity: Carc. 1B

Carcinogenicity: Carc. 2

Reproductive toxicity: Repr. 1B

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazardous to the aquatic environment: Aquatic Chronic 4

Hazard Statements:

Harmful if swallowed.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer by inhalation.

Suspected of causing cancer.

May damage fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.

May cause long lasting harmful effects to aquatic life.

Brazing/welding vapours and fumes from brazing/welding may cause metal fumes fever. Symptoms can appear 4 to 12 hours after. (headache, dizziness, dryness, cough, nausea and fever)

May cause irritation by prolonged inhalation of brazing/welding fumes.

Welding fumes (not otherwise specified) are considered to be carcinogenic with no further categorization by



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NIOSH (National Institute for Occupational Safety and Health) and IARC (International Agency for the Research on Cancer).

IARC - International Agency for Research on Cancer

NIOSH - National Institute for Occupational Safety and Health

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

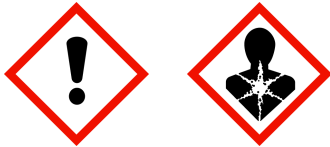
cobalt

nickel

Signal word:

Danger

Pictograms:



Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled .
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H413	May cause long lasting harmful effects to aquatic life .

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P314	Get medical advice/attention if you feel unwell.
P285	In case of inadequate ventilation wear respiratory protection.
P501	Dispose of contents/container to hazardous or special waste collection point .

Additional advice on labelling

As an article the product does not need to be labelled in accordance with EC-regulations or respective national laws.

Although this product does not require a hazard warning label, we recommend that the safety precautions should be observed.

Metals in massive form, alloys, mixtures containing polymers and mixtures containing elastomers do not require a label according to this Annex (Annex I GHS), if they do not present a hazard to human health by inhalation, ingestion or contact with skin or to the aquatic environment in the form in which they are placed on the market, although classified as hazardous in accordance with the criteria of this Annex .

Instead, the supplier shall provide the information to downstream users or distributors by means of the SDS.



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2.3. Other hazards

Welding and brazing processes can cause spatter, melting metal and UV/IR heat can cause burns or start fires.

Chromium:

Dust and smoke arise during welding and grinding Chromium (VI) oxide, which is classified as carcinogenic, particulate matter and ozone can arise.

During welding sodium chromate can arise. Sodium chromate is classified as follows: 350 May cause cancer. H 340 May cause genetic defects. H 360FD May damage fertility. May damage the unborn child. H 330 Fatal if inhaled. H 301 Toxic if swallowed., H372 Causes damage to organs through prolonged or repeated exposure. H 312 Harmful in contact with skin. H 314 Causes severe skin burns and eye damage. H 334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H 317 May cause an allergic skin reaction. H410 Very toxic to aquatic life with long lasting effects.

This classification applies only to sodium chromate.

The percentage of sodium chromate contained in the welding fume depends on the electrode, the welding material and conditions. It is not possible to assess which of the aforementioned properties are involved.

cobalt:

The mandatory harmonized classification (as set out in Annex VI of the Regulation (EC) No 1272/2008) differs from the registered classification at ECHA (European Chemicals Agency)

Following H statements were added to the mandatory harmonized classification. : H302 Harmful if swallowed. H319 Causes serious eye damage. H330 Fatal if inhaled. H350 May cause cancer by inhalation. H 360 May damage fertility. May damage the unborn child. H400 Very toxic to aquatic organisms. H 410 Very toxic to aquatic life with long lasting effects.

The mandatory H statement "H413 Harmful to aquatic life with long lasting effects" is used instead of the H statements being proposed by ECHA "H400 Very toxic to aquatic life" and "H410 Very toxic to aquatic life with long lasting effects". For alloys, the classification as H330 "Fatal if inhaled" is not recommended by the Cobalt Development Institute (CDI).

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Base metals and alloys



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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7440-48-4	cobalt			>50 %
	231-158-0	027-001-00-9	01-2119517392-44	
	Carc. 1B, Muta. 2, Repr. 1B, Acute Tox. 4, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, Aquatic Chronic 4; H350i H341 H360 H302 H319 H334 H317 H413			
7440-47-3	Chromium			10-50 %
	231-157-5		01-2119485652-31	
7789-75-5	Calcium fluoride			0,1-5 %
	232-188-7		01-2119491248-30	
7440-02-0	nickel			0,1-5 %
	231-111-4	028-002-00-7	01-2119438727-29	
	Carc. 2, Skin Sens. 1, STOT RE 1; H351 H317 H372			

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	>50 %
	oral: ATE = 500 mg/kg		
7440-02-0	231-111-4	nickel	0,1-5 %
	oral: LD50 = > 9000 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Take affected person into fresh air.
Consult a physician if necessary.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.
In the event of persistent symptoms receive medical treatment.

After contact with eyes

Rinse thoroughly with plenty of water, also under the eyelids.
In the event of persistent symptoms receive medical treatment.

After ingestion

Rinse mouth.
Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

No data available

Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.



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H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H413	May cause long lasting harmful effects to aquatic life.

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

Treat symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use fire fighting measures that suit the environment and products stored.

5.2. Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases possible.

5.3. Advice for firefighters

In case of fire, wear suitable respiratory equipment with positive air supply.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

Breathing apparatus (particle filter) only if dust is formed.

For non-emergency personnel

Avoid contact with skin, eyes and clothing.

For emergency responders

Use personal protective clothing.

Remove persons to safety.

6.2. Environmental precautions

Do not discharge into the drains or bodies of water.

6.3. Methods and material for containment and cleaning up

For cleaning up

Take up mechanically and collect in suitable container for disposal.

Other information

Take up mechanically and collect in suitable container for disposal.

6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).

Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed.

Avoid contact with skin, eyes and clothing.

Use only in well-ventilated areas.

ANSI Z49.1 Safety in Welding, Cutting and allied processes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a dry place.

Hints on joint storage

Incompatible with strong acids and oxidizing agents.



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7.3. Specific end use(s)

Welding rod, welding wire

SECTION 8: Exposure controls/personal protection



8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
-	Chromium (VI) compounds (as Cr)	-	0.01		TWA (8 h)	WEL
7440-47-3	Chromium	-	0.5		TWA (8 h)	WEL
-	Cobalt and cobalt compounds (as Co)	-	0.1		TWA (8 h)	WEL
16984-48-8	Fluoride (inorganic as F)	-	2.5		TWA (8 h)	WEL
1309-37-1	Iron oxide, fume (as Fe)	-	5		TWA (8 h)	WEL
			10		STEL (15 min)	WEL
-	Nickel and its inorganic compounds (except nickel tetracarbonyl): water-soluble nickel compounds (as Ni)	-	0.1		TWA (8 h)	WEL
13463-67-7	Titanium dioxide, respirable	-	4		TWA (8 h)	WEL
-	Tungsten compounds (as W): insoluble compounds and others	-	5		TWA (8 h)	WEL
			10		STEL (15 min)	WEL

Additional advice on limit values

Designations with OLD are no longer legally valid. These are MAC values that were deleted from TRGS 900. These values were retained as additional information for a risk assessment.

8.2. Exposure controls

Appropriate engineering controls

Provide appropriate exhaust ventilation at machinery and at places where dust or smoke can be generated.

Protective and hygiene measures

At work do not eat, drink and smoke.

Wash hands and skin before breaks and after work.

Eye/face protection

Safety goggles with side protection (EN 166).

Hand protection

Use protective gloves for welders (DIN 4841-4).

Use inner-gloves to prevent from allergic reactions due to direct skin contact.

Protective gloves resistant to chemicals made off polychloropren, Minimum coat thickness 0.6 mm, Permeation resistance (wear duration) approx. 480 minutes, i.e. protective glove <Camapren 722> made by www.kcl.de.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.

Skin protection

Dust resistant protective clothing.



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Respiratory protection

Use suitable breathing apparatus if there is inadequate ventilation. Multi-purpose filter ABEK/P3

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid
Colour:	No data available
Odour:	Odourless
pH-Value:	n.a.

Changes in the physical state

Melting point:	No data available
Boiling point or initial boiling point and boiling range:	n.a.
Sublimation point:	No data available
Softening point:	No data available
Pour point:	n.a.
Flash point:	n.a.

Explosive properties

n.a.	
Lower explosion limits:	n.a.
Upper explosion limits:	n.a.
Auto-ignition temperature:	n.a.

Oxidizing properties

n.a.	
Vapour pressure:	No data available
Density:	No data available
Water solubility:	No data available
Partition coefficient n-octanol/water:	n.a.
Viscosity / dynamic:	n.a.
Viscosity / kinematic:	n.a.
Relative vapour density:	n.a.
Evaporation rate:	n.a.
Solvent separation test:	n.a.
Solvent content:	n.a.

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions known.



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10.4. Conditions to avoid

No decomposition if stored and applied as directed.

10.5. Incompatible materials

strong acids and strong bases Strong oxidizing agents.

10.6. Hazardous decomposition products

Metallic oxides

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed.

Brazing/welding vapours and fumes from brazing/welding may cause metal fumes fever. Symptoms can appear 4 to 12 hours after. (headache, dizziness, dryness, cough, nausea and fever)

ATEmix calculated

ATE (oral) 828,0 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-48-4	cobalt				
	oral	ATE 500 mg/kg			
7440-02-0	nickel				
	oral	LD50 > 9000 mg/kg	Ratte		

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

May cause irritation by prolonged inhalation of brazing/welding fumes.

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (cobalt)

May cause an allergic skin reaction. (cobalt; nickel)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing genetic defects. (cobalt)

May cause cancer by inhalation. (cobalt)

Suspected of causing cancer. (nickel)

May damage fertility or the unborn child. (cobalt)

STOT-single exposure

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

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (nickel)

Welding fumes (not otherwise specified) are considered to be carcinogenic with no further categorization by NIOSH (National Institute for Occupational Safety and Health) and IARC (International Agency for the Research on Cancer).

Aspiration hazard

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

11.2. Information on other hazards

Endocrine disrupting properties

No information available.

Further information

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.



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SECTION 12: Ecological information

12.1. Toxicity

No data available

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		
7440-02-0	nickel					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio		
	Acute algae toxicity	ErC50 100 mg/l	72 h	Selenastrum capricornutum		
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna		

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Where possible recycling is preferred to disposal.

Dust and in exhaust systems separated particles dispose of in compliance with local regulations.

List of Wastes Code - residues/unused products

160303 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes containing hazardous substances; hazardous waste

List of Wastes Code - used product

150202 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; absorbents, filter materials, wiping cloths and protective clothing; absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging



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SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	No dangerous good in sense of this transport regulation.
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:	No dangerous good in sense of this transport regulation.
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:	No dangerous good in sense of this transport regulation.
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:	No dangerous good in sense of this transport regulation.
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 dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 27

2004/42/EC (VOC): 0 %

National regulatory information

Water hazard class (D): - - non-hazardous to water

Additional information

G39- Welding fumes.

15.2. Chemical safety assessment

For this mixture a chemical safety assessment has been carried out.

SECTION 16: Other information

Changes

Changes in section: 3, 6, 11, 12



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Abbreviations and acronyms

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
IMDG = International Maritime Code for Dangerous Goods
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
MARPOL = International Convention for the Prevention of Pollution from Ships
IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
REACH = Registration, Evaluation, Authorization and Restriction of Chemicals
CAS = Chemical Abstract Service
EN = European norm
ISO = International Organization for Standardization
DIN = Deutsche Industrie Norm
PBT = Persistent Bioaccumulative and Toxic
vPvB = Very Persistent and very Bio-accumulative
LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Eye Irrit. 2; H319	Calculation method
Resp. Sens. 1; H334	Calculation method
Skin Sens. 1; H317	Calculation method
Muta. 2; H341	Calculation method
Carc. 1B; H350i	Calculation method
Carc. 2; H351	Calculation method
Repr. 1B; H360	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 4; H413	Calculation method

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H350i May cause cancer by inhalation.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H413 May cause long lasting harmful effects to aquatic life.

Further Information

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.



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The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

IARC - International Agency for Research on Cancer

NIOSH - National Institute for Occupational Safety and Health

Literature:

Kraume, Zober: Arbeitssicherheit und Gesundheitsschutz in der Schweißtechnik. ("Occupational Safety and Health Protection in Welding")

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

