

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

Castolin Eutectic GmbH

Revision No: 2024,0

**SDS 00005****EutecTrode 640****SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

EutecTrode 640

**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****Manufacturer**

Company name:	Castolin Ireland Ltd. 36 Magna Avenue, Magna Business Park Citywest IRL-24 Dublin	Castolin Eutectic GmbH Gutenbergstrasse 10 D-65830 Kriftel
Telephone:	+353 (0) 145 158 33	+49 (0) 6192 403 0
Telefax:	+353 (0) 145 151 97	+49 (0) 6192 403 314

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

**1.4. Emergency telephone number:**

Public Poisons Information Line: +353 (0) 1 809 2166 (8am-10pm 7 days a week)

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**

Skin Sens. 1; H317

Carc. 2; H351

STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

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

IARC - International Agency for Research on Cancer

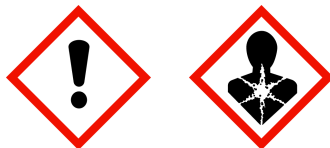
NIOSH - National Institute for Occupational Safety and Health

**2.2. Label elements****Regulation (EC) No 1272/2008****Hazard components for labelling**

nickel

**Signal word:**

Warning

**Pictograms:****Hazard statements**

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

**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.

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- 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 advice 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.

**2.3. Other hazards**

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

IARC and NIOSH are of the following opinion: During welding- and brazing processes formed metallic fumes are suspected of being cancer causing agents.

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Chemical characterization**

Base metals and alloys

**Hazardous components**

CAS No	Chemical name	Quantity
	EC No      Index No      REACH No	
	Classification (Regulation (EC) No 1272/2008)	
7440-47-3	Chromium	10-50 %
	231-157-5      01-2119485652-31	
7440-02-0	nickel	5-10 %
	231-111-4      028-002-00-7      01-2119438727-29	
	Carc. 2, Skin Sens. 1, STOT RE 1; H351 H317 H372	
7439-96-5	Manganese	0,1-5 %
	231-105-1      01-2119449803-34	

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	
7440-02-0	231-111-4	nickel	5-10 %
		oral: LD50 = > 9000 mg/kg	
7439-96-5	231-105-1	Manganese	0,1-5 %
		inhalation: LC50 = > 5,14 mg/l (dusts or mists); oral: LD50 = > 2000 mg/kg	

**SECTION 4: First aid measures**

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### 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**

H317 May cause an allergic skin reaction.  
H351 Suspected of causing cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.

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

Treat symptoms.

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## 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.

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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### **General advice**

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).  
Informations for disposal look up chapter 13.

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## SECTION 7: Handling and storage

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**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.

**Advice on general occupational hygiene**

At work do not eat, drink and smoke.  
Wash hands and skin before breaks and after work.

**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.

**7.3. Specific end use(s)**

Welding rod, welding wire

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
-	Chromium (VI) compounds (as Cr) Insoluble	-	0.01		TWA (8 h)	
7440-47-3	Chromium metal	-	2		TWA (8 h)	
7440-50-8	Copper, fume	-	0.2		TWA (8 h)	
7439-96-5	Manganese (Respirable Fraction)	-	0.05		TWA (8 h)	
7440-02-0	Nickel	-	0.5		TWA (8 h)	
13463-67-7	Titanium dioxide, total inhalable dust	-	10		TWA (8 h)	

**Biological limit values**

CAS No	Substance	Parameter	Value	Test material	Sampling time
7440-47-3	Chromium	Total chromium	25 µg/L	Urine	End of shift at end of workweek
7440-02-0	Nickel	Ni	3 µg/L	Urine	After several consecutive working shifts

**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.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Use approved tinted welding goggles during welding  
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

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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.

**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	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		n.a.
Lower explosion limits:		n.a.
Upper explosion limits:		n.a.
Flash point:		n.a.
Auto-ignition temperature:		n.a.
pH-Value:		n.a.
Viscosity / kinematic:		n.a.
Water solubility:		No data available
Partition coefficient n-octanol/water:		n.a.
Vapour pressure:		No data available
Density:		No data available
Relative vapour density:		n.a.

**9.2. Other information**

**Information with regard to physical hazard classes**

Explosive properties

n.a.

Oxidizing properties

n.a.

**Other safety characteristics**

Evaporation rate:	n.a.
Solvent separation test:	n.a.
Solvent content:	n.a.
Sublimation point:	No data available
Softening point:	No data available
Pour point:	n.a.
Viscosity / dynamic:	n.a.

**Further 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.

**10.4. Conditions to avoid**

No decomposition if stored and applied as directed.

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### 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

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

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) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-02-0	nickel				
	oral	LD50 > 9000 mg/kg	Ratte		
7439-96-5	Manganese				
	oral	LD50 > 2000 mg/kg	Ratte		
	inhalation (4 h) dust/mist	LC50 > 5,14 mg/l	Ratte		

#### Irritation and corrosivity

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

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

#### Sensitising effects

May cause an allergic skin reaction. (nickel)

#### Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (nickel)

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

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.

## SECTION 12: Ecological information

### 12.1. Toxicity

No data available

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
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		
7439-96-5	Manganese					
	Acute fish toxicity	LC50 > 3,6 mg/l	96 h	Oncorhynchus mykiss		
	Acute algae toxicity	ErC50 4,5 mg/l	72 h	Desmodesmus subspicatus		
	Acute crustacea toxicity	EC50 1,6 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

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

No data available

### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 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

## SECTION 14: Transport information

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**Land transport (ADR/RID)**

- 14.1. UN number or ID 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 or ID 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 or ID 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 or ID 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, Entry 75

Directive 2004/42/EC on VOC in  
paints and varnishes: 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 chapter: 2.3



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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
- Skin Sens: Skin sensitisation
- Carc: Carcinogenicity
- STOT RE: Specific target organ toxicity - repeated exposure

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

Classification	Classification procedure
Skin Sens. 1; H317	Calculation method
Carc. 2; H351	Calculation method
STOT RE 2; H373	Calculation method

**Relevant H and EUH statements (number and full text)**

- H317 May cause an allergic skin reaction.
- H351 Suspected of causing cancer.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H373 May cause damage to organs through prolonged or repeated exposure.

**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.

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 relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*