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

1.1. Product identifier

EutecTrode 2100 XHD

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	MEC Holding GmbH
Street:	Unit 10, Merse Road	Messer-Platz 1
Place:	GB-B98 9NZ Worcestershire	D-65812 Bad Soden
Telephone	+44 (0) 1527 5822 00	+49 (0) 6196 7760-555
Telefax	+44 (0) 1527 5822 01	+49 (0) 6196 7760-561

Verantwortlich für das Sicherheitsdatenblatt: sds@gbk-ingelheim.de

1.4. Emergency telephone number: Emergency telephone :+49 (0) 6132 / 84463 (GBK GmbH, Ingelheim)

SECTION 2: Hazards identification

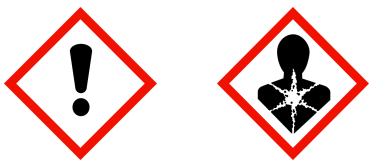
2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hazard categories:
Acute toxicity: Acute Tox. 4
Serious eye damage/eye irritation: Eye Irrit. 2
Reproductive toxicity: Lact.
Specific target organ toxicity - repeated exposure: STOT RE 2
Hazard Statements:
Harmful if swallowed.
Causes serious eye irritation.
May cause harm to breast-fed children.
May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Additional advice on labelling
As an article the product does not need to be labelled in accordance with EC-directives or respective national laws.

Signal word: Warning
Pictograms: GHS07-GHS08



Hazardous components which must be listed on the label
Aluminum potassium fluoride
sodium fluoride
Trisodium hexafluoroaluminate

Hazard statements

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H362	May cause harm to breast-fed children.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P285	In case of inadequate ventilation wear respiratory protection.
P314	Get medical advice/attention if you feel unwell.
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.
P501	Dispose of contents/container to waste treatment facility in accordance with local and national regulations .

2.3. Other hazards

Welding and brazing processes can cause spatter, melting metal and UV/IR heat can cause burns or start fires.
During welding- and brazing processes formed metallic fumes are suspected of being cancer causing agents.

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization
Base metals and alloys

Hazardous components

EC No	Chemical name	Quantity
CAS No		
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
262-153-1	Aluminum potassium fluoride	5-10 %
60304-36-1		
	Lact., Acute Tox. 4, Eye Irrit. 2, STOT RE 1, Aquatic Chronic 3; H362 H332 H319 H372 H412	
232-051-1	Aluminium fluoride	0,1-5 %
7784-18-1		
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335	
231-667-8	sodium fluoride	0,1-5 %
7681-49-4		
009-004-00-7	Acute Tox. 3, Eye Irrit. 2, Skin Irrit. 2; H301 H319 H315 EUH032	
232-152-0	Lithium fluoride	1 - < 5 %
7789-24-4		
237-410-6	Trisodium hexafluoroaluminate	0,1-5 %
13775-53-6		
009-016-00-2	STOT RE 1, Acute Tox. 4, Aquatic Chronic 2; H372 H332 H411	

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

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 the mouth. Give the patient plenty of milk or other calcium source, e.g. calcium gluconate if available. Take the patient to hospital. Do not induce vomiting
As soon as possible, take phials of calcium chloride and seek hospital.

Hazard statements

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H362	May cause harm to breast-fed children.
H373	May cause damage to organs through prolonged or repeated exposure.

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. Hydrogen fluoride (HF), Fluorides

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

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

6.2. Environmental precautions

Do not discharge into the drains or bodies of water.

6.3. Methods and material for containment and cleaning up

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.

Advice on storage compatibility
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

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
7429-90-5	Aluminium metal, respirable dust	-	4		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
16984-48-8	Fluoride (inorganic as F)	-	2.5		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

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.

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:	
Odour:	Odourless
pH-Value:	n.a.
Initial boiling point and boiling range:	n.a.
Flash point:	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
In contact with acids, may give off poisonous gases.

10.4. Conditions to avoid
Hydrogen fluoride is liberated on heating at high temperatures in the presence of water vapor.

10.5. Incompatible materials
Strong acids.

10.6. Hazardous decomposition products

In contact with acids, may give off poisonous gases.
Metallic oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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)
Risk of fluorose

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
60304-36-1	Aluminum potassium fluoride				
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1,5 mg/l		
7681-49-4	sodium fluoride				
	oral	LD50	52 mg/kg	Ratte	RTECS
13775-53-6	Trisodium hexafluoroaluminate				
	inhalative vapour	ATE	11 mg/l		
	inhalative (4 h) aerosol	LC50	4,47 mg/l	Rat	ECHA

Irritation and corrosivity
Causes serious eye irritation.
May cause irritation by prolonged inhalation of brazing/welding fumes.

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

STOT-single exposure
Based on available data, the classification criteria are not met.

Severe effects after repeated or prolonged exposure
May cause damage to organs through prolonged or repeated exposure.
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).

Carcinogenic/mutagenic/toxic effects for reproduction
May cause harm to breast-fed children. (Aluminum potassium fluoride)

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

Further information
The product was classified on the basis of the calculation procedure of the preparation directive (1999/45/EC).

SECTION 12: Ecological information

12.1. Toxicity

No data available.

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h] | [d]	Species	Source
7681-49-4	sodium fluoride					
	Acute fish toxicity	LC50	925 mg/l	96 h	Gambusia affinis	
	Acute algae toxicity	ErC50	850 mg/l	72 h	Desmodesmus subspicatus	
	Acute crustacea toxicity	EC50	338 mg/l	48 h	Daphnia magna	IUCLID
13775-53-6	Trisodium hexafluoroaluminate					
	Acute fish toxicity	LC50	99 mg/l	96 h	Danio rerio	ECHA
	Acute algae toxicity	ErC50	8,8 mg/l	96 h	Pseudokirchnerella subcapitata	ECHA
	Acute crustacea toxicity	EC50	156 mg/l	48 h	Daphnia magna	ECHA

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
13775-53-6	Trisodium hexafluoroaluminate	2,8 - 3,8

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. 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

Advice on disposal

Where possible recycling is preferred to disposal.
Dust and in exhaust systems separated particles dispose of in compliance with local regulations.

Waste disposal number of waste from residues/unused products

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

Waste disposal number of 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 dangerous substances
Classified as hazardous waste.

Waste disposal number of 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

Land transport (ADR/RID)

Other applicable information (land transport)

No hazardous material as defined by the transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)
No hazardous material as defined by the transport regulations.

Marine transport (IMDG)

Other applicable information (marine transport)
No hazardous material as defined by the transport regulations.

Air transport (ICAO)

Other applicable information (air transport)
No hazardous material as defined by the transport regulations.

14.6. Special precautions for user
No specific precautions required.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
The transport takes place only in approved and appropriate packaging.

Other applicable information
No hazardous material as defined by the transport regulations.

SECTION 15: Regulatory information

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

EU regulatory information

1999/13/EC (VOC): 0 %

National regulatory information

SECTION 16: Other information

Changes
Section: 2, 3

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

LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

Relevant H- and EUH-phrases (Number and full text)

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H362	May cause harm to breast-fed children.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

Further Information

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.

IARC - International Agency for Research on Cancer
NIOSH - National Institute for Occupational Safety and Health

Literature:

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