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SDS version 1.3

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product Identifier**

Trade Name: FERROTECH
Product- no.: -

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

Metal alloy.

Uses advised against:

This product must not be used for purposes other than those recommended without first seeking the advice of the supplier.

1.3. Details of the supplier of the safety data sheet**Company and address:**

ROLLTECH A/S
Johs. E. Rasmussens Vej 12
DK-9800 Hjørring
Denmark
+45 96 23 33 43

Contact person and E-mail:

Mikael Dietz Larsen, mdl@rolltech.dk

The Safety data sheet is completed and validated by:

Mediator A/S, Centervej 2, DK-6000 Kolding. Consultant: DH

1.4. Emergency telephone number

Use your national or local emergency number - For "First aid measures" see section 4.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

The product is not subject to labelling under CLP Regulation No. 1272/2008.

2.2. Label elements

-

Signal word:

-

2.3. Other hazards

-

Additional labelling:

-

Additional warnings

The product does not meet the criteria for PBT or vPvB.

SECTION 3: Composition/information on ingredients**3.1/3.2. Substances/Mixtures**

Substance	EU-Index no. / REACH-Reg. no.	CAS-no.	EINECS-no.	CLP-classification	Wt/Wt %	Note
Iron	- / -	7439-89-6	231-096-4	-	90 - 10	1
Chrome	- / -	7440-47-3	231-157-5	-	< 1	1
Zinc oxide	030-013-00-7 / 01- 2119463881-32- xxxx	1314-13-2	215-222-5	Aquatic Acute 1;H400, M=1, Aquatic Chronic 1;H410, M=1	< 0.1	1

1) The product is a metal alloy. Fully cured.

See full text of H-phrases in section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Not relevant.

Ingestion:

Not relevant.

Skin contact:

Wash skin with soap and water.

Seek medical advice in case of persistent discomfort.

Eye contact:

Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.

Additional information:

When obtaining medical advice, show the safety data sheet or label.

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

No irritation anticipated when used normally.

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

Show this safety data sheet to the doctor in attendance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Surrounding fire:

Extinguish with powder, foam, carbon dioxide or water mist.

Do not use water stream, as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

The product is not directly flammable. Avoid inhalation of vapour and fumes – seek fresh air.

Exposure to decomposition products may cause a health hazard.

5.3. Advice for firefighters

Fire fighters should wear appropriate protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8 for type of protective equipment.

6.2. Environmental precautions

Not relevant.

6.3. Methods and material for containment and cleaning up

Sweep up/collect spills for possible reuse or transfer to suitable waste containers.

Pick up mechanically.

6.4. Reference to other sections

See section 8 for type of protective equipment.

See section 13 for instructions on disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

See section 8 for information about precautions for use and personal protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

There are no special requirements for storage. However, it should be stored safe and out of the reach of children.

7.3. Specific end use(s)

See application section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Indicative occupational exposure limit value (IOELV)

-

DNEL/PNEC-values:

DNEL Iron

	Workers	Consumers
Inhalation - Chronic Local	3 mg/m ³	1,5 mg/m ³
Oral - Chronic Systemic	-	0,71 mg/kg bw/day

DNEL Chrome

	Workers	Consumers
Inhalation - Chronic Local	0,5 mg/m ³	0,027 mg/m ³

DNEL Zinc oxide

	Workers	Consumers
Inhalation - Chronic Systemic	5 mg/m ³	2,5 mg/m ³
Inhalation - Chronic Local	0,5 mg/m ³	-
Dermal - Chronic Systemic	83 mg/kg bw/day	83 mg/kg bw/day
Oral - Chronic Systemic	-	0,83 mg/kg bw/day

PNEC Chrome

Fresh water	6,5 µg/L
Soil	21,1 mg/kg soil dw

PNEC Zinc oxide

Fresh water	20,6 µg/L
Marine water	6,1 µg/L
Soil	35,6 mg/kg

8.2. Exposure controls

There are no exposure scenarios for this product.

Appropriate engineering controls:

Wear the personal protective equipment specified below.

Personal protective equipment:

Respiratory protection:

Generally not required.

In case of insufficient ventilation during handling (welding, cutting, grinding, heating) wear respiratory protective equipment with filter P2.

Hand protection:

Plastic or rubber gloves recommended.

Eye/face protection:

Generally not required.

Recommended:

Wear safety goggles if there is a risk of dust contact with eyes.

Skin protection:

No special requirements.

Environmental exposure controls:

Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid substance
Colour:	-
Odour:	-
Melting point/ Freezing Point (°C):	1500
Boiling point or initial boiling point and boiling range (°C):	-
Flammability:	-
Lower and upper explosion limit (vol-%):	-
Flash point (°C):	-
Auto-ignition temperature (°C):	-
Decomposition temperature (°C):	-
pH:	-
Kinematic viscosity (mm ² /s):	-
Solubility:	Not soluble in water
Partition coefficient n-octanol/water (log value)	-
Vapour pressure:	-
Density and/or relative density:	7,7 - 7,8 g/cm ³ , 20 °C
Relative vapour density:	-
Particle characteristics:	-

9.2. Other information

None.

SECTION 10: Stability and reactivity

10.1. Reactivity

No data.

10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No special precautions regarding contact with other materials at the recommended storage conditions.

SECTION 11: Toxicological information

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

Acute toxicity:

Based on the existing data, the classification is not met.

Substance	exposure	Species	Test	Result
Iron	Oral	Rat	LD50	98,6 g/kg bw
Zinc oxide	Oral	Rat	LD50	> 2000 mg/kg bw
Zinc oxide	Inhalation	Rat	LC50/ 4 Hours	> 1,79 mg/L air
Zinc oxide	Dermal	Rat	LD50	> 2000 mg/kg bw

Skin corrosion/irritation:

Skin irritation is not anticipated when used normally.

Serious eye damage/irritation:

May cause mechanical irritation.

Respiratory or skin sensitisation:

Based on the existing data, the classification is not met.

Germ cell mutagenicity:

Based on the existing data, the classification is not met.

Carcinogenicity:

Based on the existing data, the classification is not met.

Reproductive toxicity:

Based on the existing data, the classification is not met.

STOT-single exposure:

Based on the existing data, the classification is not met.

STOT-repeated exposure:

Based on the existing data, the classification is not met.

Aspiration hazard:

Based on the existing data, the classification is not met.

11.2. Information on

Test data are not

SECTION 12: Ecological information

12.1. Toxicity

Substance	Test duration	Species	Test	Result
Zinc oxide	96 Hours	Fish	LC50	1,793 mg/L
Zinc oxide	48 Hours	Daphnia	EC50	7,5 mg/L
Zinc oxide	96 Hours	Algae	EC50	0,65 mg/L

12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
No data.	-	-	-

12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow
No data.	-	-

12.4. Mobility in soil

Test data are not available.

12.5. Results of PBT and vPvB assessment

The product does not meet the criteria for PBT or vPvB.

12.6. Endocrine disrupting properties

Test data are not available.

12.7. Other adverse effects

None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The product is not classified as hazardous waste according to Waste Management. Disposal of spillage and waste via the municipal waste collection service with the specifications below is recommended.

EWC-Code	Description
11 01 99	Wastes not otherwise specified

Specific labelling:

-

Contaminated packaging:

Uncleansed packaging is to be disposed of via the local waste-removal scheme.

SECTION 14: Transport information

The product is not covered by the rules for transport of dangerous goods by road and sea according to ADR, IMDG and IATA.

14.1 -14.4.

ADR

-

IMDG/IATA

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

14.7. Maritime transport in bulk according to IMO instruments

Not relevant.

SECTION 15: Regulatory information

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

Sources:

Commission Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, EU 2017/164 and EU 2019/1831 (the first, second, third, fourth and fifth IOELV Directives).

Directive 2004/37/EC with amendments

Additional labelling:

-

Restrictions for application:

-

Demands for specific education:

-

15.2. Chemical safety assessment

None.

SECTION 16: Other information

According to EU regulation 1907/2006 (REACH)

Other information:

Sources:

EC regulation 1907/2006 (REACH), with amendments.

EC Regulation 1272/2008 (CLP), with amendments.

EU regulation no. 276/2010

Directive 2008/98/EC

ECHA - The European Chemicals Agency

Full text of H-phrases as mentioned in section 2+3:

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Classification according to Regulation (EC) Nr. 1272/2008:

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Material Safety Data Sheet

Abbreviations and acronyms used in the safety data sheet:

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals. Regulation (EC) No 1907/2006.

CLP: Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.

CAS-Number.: Chemical Abstracts Service number.

EC-Number.: EINECS and ELINCS Number (see also EINECS and ELINCS).

DNEL: Derived No Effect Level.

PNEC(s): Predicted No Effect Concentration(s).

STOT: Specific Target Organ Toxicity.

LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).

LC50: Lethal Concentration to 50 % of a test population.

EC50: The effective concentration of substance that causes 50% of the maximum response.

PBT: Persistent, Bioaccumulative and Toxic.

vPvB: Very Persistent and Very Bioaccumulative.

NOEC: The highest tested concentration at which, in a study, no statistically significant effect is observed in the exposed population compared with

NOAEL: The highest tested dose or exposure level at which there are no statistically significant increases in the frequency or severity of adverse effects between the exposed population and an appropriate control group; some effects may be produced at this level, but they are not considered adverse or precursors of adverse effects.

Other:

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

Minor changes have been made in following sections:

General update.

This material safety data sheet replaces version:

1.2