

SAFETY DATA SHEET

ELEKTROD RMA H100 206230203

Last changed: 20/06/2012

Internal No: 206230203

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

1.1 Product identifier

Trade name / designation ELEKTROD RMA H100 206230203

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

1.3 Details of the supplier of the safety data sheet

NATIONAL MANUFACTURER/IMPORTER

Enterprise Luna Verktyg & Maskin AB
Postal code 441 80 Alingsås
Country Sverige
E-mail mikael.olsson@luna.se
Internet www.luna.se
Telephone +46 322 60 60 00
Fax +46 60 64 43

CONTACT PERSONS

| Name | E-mail | Telephone | Country |
|---------------|--------|-----------|---------|
| Mikael Olsson | | | |

2 Hazards identification

2.1 Classification of the substance or mixture

DPD Classification:

CLP Classification:

Most important HSE hazard effects:

2.2 Label elements

Signal word: None

EC-Label: No

COMPOSITION

Cr (< 35 %), Mn (< 15 %), Mo (< 10 %), Niobium (< 10 %), Vanadium (< 5 %), Wolfram (< 10 %)

2.3 Other hazards

3 Composition/information on ingredients

3.2 Mixtures

SAFETY DATA SHEET

ELEKTROD RMA H100 206230203

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| Ingredient name | Reg.No | EC No. | CAS No. | Conc. (wt%) | DPD-Classification | CLP-classification |
|-----------------|--------|--------|-----------|-------------|--------------------|--------------------|
| Cr | | | 7440-47-3 | < 35 % | | |
| Mn | | | 7439-96-5 | < 15 % | | |
| Mo | | | 7439-98-7 | < 10 % | | |
| Niobium | | | 7440-03-0 | < 10 % | | |
| Vanadium | | | 7440-62-2 | < 5 % | | |
| Wolfram | | | 7440-33-7 | < 10 % | R67 | STOT SE 3 H336 |

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

The EUH hazard statements mentioned in CLP-classification are only label elements.

4 First aid measures

4.1 Description of first aid measures

INHALATION

During welding fume can be inhaled: bring patient in fresh air, breath in fresh air deeply. Contact physician if necessary

INGESTION

Not applicable.

SKIN CONTACT

Not applicable.

EYE CONTACT

Not applicable.

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

5 Fire-fighting measures

5.1 Extinguishing media

SUITABLE EXTINGUISHING MEDIA:

All common fire extinguishing agents may be used.

5.2 Special hazards arising from the substance or mixture

5.3 Advice for fire-fighters

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

PERSONAL PRECAUTIONS

No special precautions required.

6.2 Environmental precautions

ENVIRONMENTAL PRECAUTIONS

No special precautions required.

SAFETY DATA SHEET

ELEKTROD RMA H100 206230203

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Internal No: 206230203

6.3 Methods and material for containment and cleaning up

METHODS AND MATERIAL

Dumped according to local and national regulations.

6.4 Reference to other sections

7 Handling and Storage

7.1 Precautions for safe handling

PRECAUTION FOR SAFE HANDLING

No special precautions required.

7.2 Conditions for safe storage, including any incompatibilities

CONDITION FOR SAFE STORAGE, INCLUDING ANY UNCOMPATIBILITIES

No specific storage precautions noted.

7.3 Specific end uses

8 Exposure controls / Personal protection

8.1 Control parameters

8.2 Exposure controls

APPROPRIATE ENGINEERING CONTROLS

In case of dust or smoke: keep foodstuffs sealed

Avoid direct contact. Protective clothing must be stored separately from other clothing.

Wash your hands thoroughly after handling and before eating or smoking.

EYE PROTECTION

Use eye protection.

SKIN PROTECTION

Use well fitting working clothes

Use a welding helmet during welding

HAND PROTECTION

Wear suitable gloves.

RESPIRATORY PROTECTION

During welding fumes will be formed. The fume content is depending on the electrode type and the base material.

Primarily iron oxide, secondarily complex oxides of manganese may be formed. Chromium, Molybdenum. Also ozone and nitrogen dioxide can be formed by arc radiation.

Effective ventilation is presupposed or suitable respirator. If ventilation is insufficient, suitable respiratory protection must be applied.

OTHER INFORMATION

Possible reaction products in welding fume: Manganese oxide, ozone, nitrogen dioxide, Chromium, Molybdenum Oxide, Vanadium Oxide, Tungsten (Wolfram) Oxide.

9 Physical and chemical Properties

9.1 Information on basic physical and chemical properties

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ELEKTROD RMA H100 206230203

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PHYSICAL STATE Electrode Electrode

| Parameter | Value/unit | Method/reference | Observation |
|---|----------------|------------------|-------------|
| pH concentrate | No data | | |
| pH in solution | No data | | |
| Melting point | 1000 - 1500 °C | | |
| Freezing point | No data | | |
| Initial boiling point and boiling range | No data | | |
| Flash point | No data | | |
| Evaporation rate | No data | | |
| Flammability (solid, gas) | No data | | |
| Flammability limits | No data | | |
| Explosion limits | No data | | |
| Vapour pressure | No data | | |
| Vapour density | No data | | |
| Relative density | No data | | |
| Partition coefficient | No data | | |
| Auto-ignition temprature | No data | | |
| Decomposition temprature | No data | | |
| Viscosity | No data | | |

9.2 Other safety information

| Note no. | Comments |
|----------|----------|
| | |

10 Stability and Reactivity

10.1 Reactivity

10.2 Chemical stability

10.3 Possibility of hazardous reactions

10.4 Conditions to avoid

CONDITIONS TO AVOID

Avoid contact with acids and alkalies.

10.5 Incompatible materials

10.6 Hazardous decomposition products:

HAZARDOUS DECOMPOSITION PRODUCTS

Not known

11 Toxicological information

11.1 Toxicological effects

12 Ecological information

12.1 Toxicity

ECOTOXICITY

Not known

12.2 Persistence and degradability

SAFETY DATA SHEET

ELEKTROD RMA H100 206230203

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12.3 Bioaccumulative potential

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

12.6 Other adverse effects

13 Disposal considerations

13.1 Waste treatment methods

GENERAL REGULATIONS

Dumped according to local and national regulations.

14 Transport information

Classified as Dangerous Goods: **No**

Land transport (ADR/RID)

| | | | |
|----------------------------------|-----------------|-----------------------------------|-----------------|
| 14.1 UN-No. | Not applicable. | 14.4 Packing group | Not applicable. |
| 14.2 Proper Shipping Name | Not applicable. | 14.5 Environmental hazards | Not applicable. |
| 14.3 Class(es) | Not applicable. | | |
| Hazard label(s) | Not applicable. | | |
| Hazard ID: | Not applicable. | Tunnel restriction code | Not applicable. |

Inland water ways transport (ADN)

| | | | |
|---|-----------------|-----------------------------------|-----------------|
| 14.1 UN-No. | Not applicable. | 14.4 Packing group | Not applicable. |
| 14.2 Proper Shipping Name | Not applicable. | 14.5 Environmental hazards | Not applicable. |
| 14.3 Class(es) | Not applicable. | | |
| Enviromentally hazardous in tank-vessels | Not applicable. | | |

Sea transport (IMDG)

| | | | |
|------------------------------------|-----------------|-----------------------------------|-----------------|
| 14.1 UN-No. | Not applicable. | 14.4 Packing group | Not applicable. |
| 14.2 Proper Shipping Name | Not applicable. | 14.5 Environmental hazards | Not applicable. |
| 14.3 Class(es) | Not applicable. | | |
| Sub Risk: | Not applicable. | | |
| IMDG Code segregation group | Not applicable. | | |
| Marine pollutant | Not applicable. | | |
| EMS: | Not applicable. | | |

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Air transport (ICAO-TI / IATA-DGR)

| | | | |
|----------------------------------|-----------------|-----------------------------------|-----------------|
| 14.1 UN-No. | Not applicable. | 14.4 Packing group | Not applicable. |
| 14.2 Proper Shipping Name | Not applicable. | 14.5 Environmental hazards | Not applicable. |
| 14.3 Class(es) | Not applicable. | | |
| Hazard label(s) | Not applicable. | | |

15 Regulatory information

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

15.2 Chemical Safety Assessment

OTHER INFORMATION

Warning do not inhale welding fumes Medium acute toxicity. Risk of injuries with long term or frequent inhalation. Ensure that ventilation is good. See the Safety Data Sheet for the type of electrode in question.

16 Other information

LIST OF RELEVANT R-PHRASES

R67 Vapours may cause drowsiness and dizziness.

LIST OF RELEVANT H-STATEMENTS

H336 May cause drowsiness or dizziness.