SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Product name: EI 312 **Issue Date:** 12/6/2023

MAGMAWELD encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: Arc Welding
STAINLESS STEEL STICK ELECTRODES– EI 312

Recommended use of the chemical and restrictions on use
Identified uses: Arc Welding **–** STAINLESS STEEL STICK ELECTRODES– EI 312

COMPANY IDENTIFICATION
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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

These substances are classified as not hazardous.

These products contain titanium dioxide which is possibly carcinogenic .

These products contain quartz ,but not an inhalable form.Quartz can cause silicosis and may cause cancer.

These products contain nickel which is classified as toxic by prolonged inhalation,a skin sensitizer and a suspect carcinogen.Nickel powder is harmful for the environment.

2.2 Label elements

Labelling (CLP)

Hazard statements : not applicable

Precautionary statements : not applicable

2.3 Other Hazards

These products are normally not considered hazardous as shipped.Gloves should be worn when handling to prevent cuts or abrasions or possible allergic reactions.

Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device.

Electric shock can kill.

Arc ray can severely damage eyes or skin.

Spatter and melting metal can cause burn injuries and start fires.

Formation of dangerous fumes during use.Inhalation of welding fumes may cause respiratory irritation.Cough.Excessive or prolonged inhalation of fumes may cause metal fume fever.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

				Classification	Classification	Classification
Ingredients	CAS NO	EINECS	content	Hazardous classification	H phrases	R phrases
Iron	7439-89-6	231-096-4	50-75	No	No	No
Manganese	7439-96-5	231-105-1	<5	No	No	No
Aluminum	7429-90-5	231-072-3	<1	Water-react.2 Flam.sol.1	H261 H228	F R15-R11
Nickel	7440-02-0	231-111-4	9-15	Carc.1B SKIN SENSE 1 STOT RE	H317 H350 H372	T CARC. CAT.3 R40-48/23- R43-R52-53
Chromium	7440-47-3	231-157-5	35-45	No	No	No
Molybdenum	7439-98-7	231-107-2	<3	No	No	No
Niobium	7440-03-1	231-113-5	<2	No	No	No
Silicon and/or alloys	8049-17-0	231-130-8	<5	No	No	No
Carbon	7440-44-0	231-153-3	<1	No	No	No
Fluoride	7789-75-5	232-188-7	<5	No	No	No
Cellulose	9004-34-6	232-674-9	<1	No	No	No
Iron oxides	1317-60-8	215-168-2	<1	No	No	No
Silicate binder (potassium)	1312-76-1	215-199-1	<5	Acute Tox 4	No	Xi R37/38-41
Silicate binder (sodium)	1344-09-8	215-687-4	<5	Acute Tox 4	No	Xi R36/38
Calcium Carbonate	1317-65-3	215-279-6	<5	No	No	No
Silicon Dioxide	14808-60-7	238-878-4	<5	CARC 1A STOT RE 1	H372 H350	Xn R48/20
Titanium Oxide	13463-67-7	236-675-5	5-15	Carc 2	H351	No

4. FIRST AID MEASURES

Description of first aid measures

4.1 Description of first aid measures

Inhalation : If breathing isdifficult,provide fresh air and call phsician.If breathing has stopped ,perform artificial respiration and obtain medical assistance immediately.

Eye contact : To remove dusts or fumes flush with water for fifteen minutesIf irritation persists,obtain medical assistance.For radiation burns due to arc flash ,see phsician.

Skin contact : For skin burns from arc radiation ,promptly flush with cold water.Get medical attention for burns or irritations that persist.To remove dust or particles wash with mild soap and water.

Electric shock: Disconnect and turn off the power.Use a nonconductive material to pull victim away from contact with live parts or wires.If not breating ,begin artificial respiration ,preferably mouth to mouth.If no detectable pulse ,begin Cardio Pulmonary Resuscitation .Immediately call a phsician.

Ingestion: Rinse mouth.Do not induce vomiting.Obtain emergency medical attention.

4.2 Most important symptons and effects , both acute and delayed

Can cause nauseation and vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically .

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

The products are not flammable,but welding hot slag or sparks may cause fire.Use extinguishing media recommended fort he burning materials and fire situation.Do not enter fire area without proper protective equipment ,including respiratory protection.

5.2 Special hazards arising from the substance or mixture

No special hazards

5.3 Advice for firefighters

Wear self-contained breathing apparatus.Wear suitable protective clothing.

5.4 Hazchem code

None allocated .

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions ,protective equipment and emergency procedures:

Equip clean-up crew with proper protection.

6.2 Enviromental precautions:

On land ,sweep or shovel into suitable containers.

6.3 Methods and material for containment and cleaning up

No need

6.4 Reference to other sections

Refer additionallyto section 8 and 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle with care to avoid stings and cuts.Wear gloves when handling welding consumables Avoid exposure to dust Do not ingest.Some individuals can develop an allergic reaction to certain materials.Retain all warning and identity labels.

7.2 Conditions for safe storage , including any incompatibilities

Keep separate from chemical substances like acids and strong bases,which could cause chemical reactions.

7.3 Special end use(s)

No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Exposure standards

Substance	cas no	ACGIH TLV (mg/m3)	OSHA PEL (mg/m3)
Titanium Oxide	134-67-7	10	15*
Calcium Carbonate	1317-65-3	withdrawn	15*,5**
Mineral Silicate	12141-46-7	2	5
Manganese	7439-96-5	0,2	5
Silicon and/or alloys	8049-17-0	10	10
Nickel	7440-02-0	1	1,5***
Molybdenum	7439-98-7	10	5
Chromium	7440-47-3	1	0,5
Fluoride	7789-75-5	2,5	2,5
Iron(as iron oxide)	7439-89-6	5**	10(fume)
Aluminum	7429-90-5	1**	15*,5**
Silicon Dioxide	14808-60-7	0,025**	10 mg/m^3/(%SiO2+2)
Cellulose	9004-34-6	10	15*,5**

*Total dust **Respirable fraction ***Inhalable fraction

8.2 Exposure controls

Ensure sufficient ventilation,local exhaust,or both ,to keep welding fumes and gases from breathing zone and general area.

Keep working place and protective clothing clean and dry.

Train welders to avoid contact with live electrical parts and insulate conductive parts.

Check condition of protective clothing and equipment on a regular basis.

Personal protective equipment

Avoid exposure to welding fumes,radiation,spatter,electric shock,heated materials and dust.

In case of insufficient ventilation,wear suitable respiratory equipment.Do not breathe gas,fumes,vapour.

For hand protection, wear welding gloves.

For eye protection ,use a protection mask equipped with suitable fitler glasses.Interdiction to wear contact lenses.

For body protection,use suitable clothing,helmet,boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance :Solid,non-volatile with varying color

Odour: Odourless

Density(kg/lt) : 7,8

pH value : Not applicable

Melting Point (0C) : ca 1500

Flashing point :not applicable

Auto Ignition Temperature : Not applicable

Explosion Limits : . Not applicable

Solubility in water :Insoluble

Viscosity : Not applicable

9.2 Other information

Not relevant

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

10.1 Reactivity

These products are stable under normal conditions.

10.2 Chemical stability

Contact with chemical substances like acids or strong bases could cause generation of gas.

10.3 Possibility of hazardous reactions

Formation of dangerous fumes during use.Welding fumes are classified carcinogen by the IARC (International Agency for Researh on Cancer):Group 2B Cancer suspected agent.

10.4 Conditions to avoid

Reasonably expected gaseous products would include carbon oxides,nitrogen oxides and ozone.Air contaminants around the welding area can be affected by the welding process and influence the composition and quantity of fumes and gases produced.

The amount of fumes generated from these products varies with welding parameters and dimensions.Fumes from these products may contain compounds of the following chemical elements:Fe,O,Mn,Zr,Si,Al,Cu,C,and Ti.

10.5 Incompatible materials

Incompatible with acids and bases

10.6 Hazardous decomposition products

Fumes from these products may contain compounds of the following chemical elements:Fe,O,Mn,Zr,Si,Al,Cu,C,and

Ti.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No known toxilogical effects from this product

Skin

Not classified as irritating to the skin . Contact may result in mechanical irritation.

Eye

Contact may result in mechanical irritation.

Sensitisation

Inhalation of welding fumes and gases can be dangerous to your health .Classification of welding fumes is difficult because of varying base materials,coatings,air contamination and process.IARC (International Agency for Researh on Cancer)has classified welding fumes as possibly cancinogenic to humans (Group 2B)

Acute Toxicity:Overexposure to welding fumes may result in symptoms like metal fume fever ,dizziness,nausea,dryness or irritationof nose,throat or eyes.

Chronic Toxicity:Overexposure to welding fumes may affect pulmonary function.Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system ,including the brain,symptoms of which may include slurred speech ,lethargy,tremor,muscular weakness,phychological disturbances and spastic gait.

Mutagenicity

No evidence of mutagenitic effects

Cancinogenicity

Inhalation of welding fumes and gases can be dangerous to your health .Classification of welding fumes is difficult because of varying base materials,coatings,air contamination and process.IARC (International Agency for Researh on Cancer)has classified welding fumes as possibly cancinogenic to humans (Group 2B)

Reproductivity

No evidence of reproductive effects

STOT-single exposure

Not relevant

STOT-repeated exposure

Not relevant

Aspiration

Overexposure to welding fumes may affect pulmonary function.Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system ,including the brain,symptoms of which may include slurred speech ,lethargy,tremor,muscular weakness,phychological disturbances and spastic gait.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

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 Other adverse effects

None

Avoid release to the environment .Do not discharge in sewer.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Welding process disposals can accumulate in soil and underground water paths.

Slugs can contain Fe,Mn,Si,Ti,Al,Mo,Zr and Cu oxides and compounds.

Dispose in a safe manner in accordance with local/national regulations.Use recycling procedures if available.

14. TRANSPORT INFORMATION

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not restricted

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Enviromental hazards

No

14.6 Special precautions for user

No dangerous good in sense of these transport regulations

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No available data

No international regulations or restrictions are applicable.

15. REGULATORY INFORMATION

15.1 Safety , health and environmental regulations/legislation specific fort he substance or mixture

Classification of substance and mixtures , labeling and packaging regulation

15.2 Chemical safety assessment

No data available

16. OTHER INFORMATION

Product Literature

Additional information on this and other products may be obtained by visiting our web page.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
TWA	8-hour, time-weighted average

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

MAGMAWELD urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer- specific SDS, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.