



SAFETY DATA SHEET

Regulation REACH 1907/2006, Regulation 830/2015, Regulation CLP 1272/2008,
ISO 11014-1 Standards and ANSI Z400.1

SSP name: NORT
Rev. 02
Rev. Date mag-19
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1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of substance / preparation

Solid welding wire and TIG rods

Product name

TD-MAK5, TD-MAK10, TD-MAK10 Extra, TD-MAK10S, TD-MAK10 S Extra, TD-S4, TD-MAK 12, TD-EL12, TD-G1, TD-G2, TD-S3Si

Superficial Finishing: All (Coppered / Bronzed / Uncoppered - Extra)

1.2 Use of substance / preparation

To be used only for welding operations, Industrial use – Professional use

1.3 Company / undertaking identification

Specialised Welding Products Ltd, Unit 1, Farringdon Industrial Centre, Farringdon, Nr Alton, Hampshire GU34 3DD, UK

1.4 Emergency Telephone

+44 (0)1420 588180

2 HAZARDS IDENTIFICATION

This product is normally not considered hazardous as shipped. Gloves should be worn when handling to prevent cuts and abrasions.

2.1 Classification of the substance or mixture

The solid wires that this MSDS concerns are not classified as hazardous to health and environment according to present regulation.

2.2 Label elements

Solid welding wires in massive form do not require labeling under current chemical product classification and labeling regulations.

2.3 Other hazards

Processes which generate particulates during welding can cause hazards to health or environmental effects and they may cause an allergic reaction on contact with skin or by inhalation. Skin contact is normally no hazard but should be avoided to prevent 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.

Heat

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

Radiation

Arc rays can severely damage eyes or skin.

Electricity

Electric shock can kill.

Fumes

Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic 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, tremor, muscular weakness, psychological disturbances etc.

3.1 Substance / Preparation

Please refer to point n° 3.2.

3.2 Mixture

The substances contained in the preparation are listed in the below table. Steel can contain other elements in quantity as "traces", so not intentionally added. The total amount of these substances is, in any case, less than 0,50% in weight.

| Compoenet | Weigth % | CAS | EINECS | Hazardous Classification | IARC | NTP | OSHA |
|------------|-------------|-----------|-----------|--------------------------|------|-----|------|
| Carbon | 0,03 - 0,15 | 7440-44-0 | 231-153-3 | / | / | / | / |
| Silicon | < 1,00 | 7440-21-3 | 231-130-8 | / | / | / | / |
| Manganese | 0,30 - 1,90 | 7439-96-5 | 231-105-1 | / | / | / | / |
| Iron | > 96 | 7439-89-6 | 231-096-4 | / | / | / | / |
| Copper | < 0,30 | 7440-50-8 | 231-159-6 | / | / | / | / |
| Crome | / | | | | | | |
| Nichel | / | | | | | | |
| Molibdenum | / | | | | | | |
| Vanadium | / | | | | | | |
| Titanium | / | | | | | | |
| Aluminium | / | | | | | | |
| Zirconium | / | | | | | | |
| Tungsten | / | | | | | | |

Evaluation according to the International Agency for Research on Cancer. Classification according to the 11th Report on Carcinogens, published by the US National Toxicology Program.

Carcinogen listing according to OSHA / Hazard Classification according to Regulation (EC) No 1272/2008

For the full text of H phrases go to the Section n° 16.

4.1 Description of first aid measures

Inhalation

If breathing has stopped, perform artificial respiration and obtain medical assistance immediately. If breathing is difficult, provide fresh air and call a doctor.

Eyes

To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists obtain medical assistance. Get medical attention for burns or irritations that persist.

Skin

For skin burns from arc radiation flush with cold water. Get medical attention for burns or irritations that persist.

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 breathing begin artificial respiration. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). Immediately call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Not applicable

4.3 Indication of any immediate medical attention and special treatment needed

Not applicable

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

No specific recommendations for welding consumables. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning materials and fire situation.

5.2 Special hazards arising from the substance or mixture

Not applicable

5.3 Advice for firefighters

Wear self-contained breathing apparatus as fumes or vapors may be harmful.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Go to the Section n° 8

6.2 Environmental precautions

Go to the Section n° 13

6.3 Methods and material for containment and cleaning up

Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Use DPI during the operations.

6.4 Reference to other sections

Section n° 8 and n° 13

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. Keep all identification 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 Specific use

Only for welding.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Read and understand the "Recommendations for Exposure Scenarios, Risk Management Measures and to identify Operational Conditions under which metals, alloys and metallic articles may be safely welded", available from your supplier. Welding/Brazing produces fumes which can affect human health and the environment. Fumes are a varying mixture of airborne gases and fine particles which, if inhaled or swallowed, constitute a health hazard. The degree of risk will depend on the composition of the fume, concentration of the fume and duration of exposure. The fume composition is dependent upon the material being worked, the process and consumables being used, coatings on the work such as paint, galvanizing or plating, oil or contaminants from cleaning and degreasing activities. A systematic approach to the assessment of exposure is necessary, taking into account the particular circumstances for the operator and ancillary worker that can be exposed. Considering the emission of fumes when welding, brazing or cutting of metals, it is recommended to

1- Arrange risk management measures through applying general information and guidelines provided by this Exposure scenario

2- Using the information provided in this MSDS.

The employer shall ensure that the risk from welding fumes to the safety and health of workers is eliminated or reduced to a minimum.

The following principle shall be applied:

1- Select the applicable process/material combinations with the lowest class, whenever possible.

2- Set welding process with the lowest emission parameter.

3- Apply the relevant collective protective measure in accordance with class number. In general, the use of PPE s taken into account after all other measures is applied.

4- Wear

the relevant personal protective equipment in accordance with the duty cycle.

8.1 Control parameters

MAC, PEL, TLV values may vary per element as well as per country. Check your national limit values. Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits.

8.2 Exposure control**Eye/face protection**

Always wear eye protection when handling dusts and other particulates, e.g. safety glasses with side protection, safety goggles or visor.

Skin protection

Always wear protective clothing when handling dusts and other particulates.

Hand protection

Wear hand protection, e.g. leather gloves when handling welding electrodes with sharp edges to avoid cuts.

Always wear disposable nitrile or vinyl gloves when handling particulate material to avoid skin contact. Where necessary wear the disposable gloves under work gloves to protect against both types of hazard.

Respiratory protection

Solid welding wires delivered in solid form give no health risk through inhalation. Extraction should be used when working with particulate material (dust, fumes, mist). In case of prolonged or frequent exposure to particulates, wear particle filter mask (like for instance P3).

General hygiene measures

Wash hands well with soap and water after handling dusty materials. Wash contaminated clothing to avoid secondary contamination or contamination of other personnel.

Thermal hazards

Ensure adequate ventilation to keep levels of air-borne particles below occupational exposure limits. Working areas should be provided with extraction. Factories should be kept clean to avoid any unnecessary contamination.

Environmental exposure control

Avoid letting dust and fumes entering the outside air.

9 PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

| | |
|---|--|
| Appearance | Solid, non-volatile with varying color |
| Smell | Absent |
| Olfactory threshold | Not determined |
| PH | Not applicable |
| Melting point | > 1000° C |
| Boiling point | Not applicable |
| Flash point | Not determined |
| Lower / upper limits of flammability or explosiveness | Not determined |
| Vapor tension | Not applicable |
| Vapor density | Not applicable |
| Relative density | Not determined |
| Solubility | Insoluble |
| Partition coefficient | Not determined |
| Self-ignition temperature | Not applicable |
| Decomposition temperature | Not applicable |
| Viscosity | Not determined |
| Explosive properties | Not applicable |
| Oxidising properties | Not applicable |

9.2 Other information

No other physical or chemical parameters are necessary.

10 STABILITY / REACTIVITY**10.1 Reactivity**

Contact with chemical substances like acids or strong bases could generate gas.

10.2 Chemical stability

This product is stable under normal conditions.

10.3 Possibility of hazardous reactions

Go to Section n° 8.

10.4 Conditions to avoid

To be used only for welding.

10.5 Incompatible materials

Contact with chemical substances like acids or strong bases could generate gas.

10.6 Hazardous decomposition products

When this product is used in a welding process hazardous decomposition products would include those from the oxidation of the materials listed in section 3 and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions of consumable but is generally no more than 5 to 10 g/kg. A significant amount of the chromium in the fumes can be hexavalent chromium, which has a very low exposure limit in some countries. Manganese has a low exposure limit, in some countries, that may be easily exceeded. Air contaminants around the welding area can be affected by the welding process and influence the composition and quantity of fumes and gases produced.

11 TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Inhalation of welding fumes and gases can be dangerous to your health. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (Group 2B).

Acute toxicity

Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.

Chronic toxicity

Overexposure to welding fumes may affect pulmonary function. Prolonged inhalation of chromium compounds above safe exposure limits can cause cancer. 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, tremor, muscular weakness, psychological disturbances etc.

12 ECOLOGICAL INFORMATION**12.1 Toxicity**

Solid welding wires may contain metals which are considered to be toxic towards aquatic organisms

12.2 Persistence and degradability

Solid welding wires consist of elements that cannot degrade any further in the environment.

12.3 Bioaccumulation potential

N.A.

12.4 Mobility in soil

Solid welding wires are not soluble in water or soil. Particles formed by working with solid welding wires can be transported in the air

12.5 Results of PBT and vPvB assessment

No chemical safety report is required for the solid welding wires, however neither the solid welding wire in itself or the substances that it consist of, meet the criteria for PBT or vPvB in accordance with REACH, Annex XIII.

12.6 Other adverse effects

In massive form, solid welding wires present no hazards to the aquatic environment. Particles and ions can, never the less, enter the aquatic compartment by means of dusts or smoke, or by liberation due to erosion thereby introducing iron or heavy metals into the ground or water.

13.1 Waste treatment methods

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available.

| | |
|-------------------------|---------------------------------|
| Industrial waste number | 12 01 13 Welding wastes (Q8) |
| | 16 01 18 Ferrous Metal (Q1) |
| | 16 01 18 Non ferrous Metal (Q1) |

14 TRANSPORT INFORMATION**14.1 UN number**

Solid welding wires are not classified as dangerous goods for transport and have no UN number.

14.2 UN proper shipping name

Solid welding wires are not classified as dangerous goods for transport and have no UN proper shipping name

14.3 Transport hazard class(es)

Solid welding wires are not classified as dangerous goods for transport.

14.4 Packing group

There are no any special precautions with which a user should or must comply or be aware of in connection with transport or conveyance either within or outside his premises.

14.5 Environmental hazards

Solid welding wires are not environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID and ADN) and/or a marine pollutant according to the IMDG Code.

14.6 Special precautions for user

There are no any special precautions which a user should or must comply or be aware of in connection with transport or conveyance either within or outside his premises of the solid welding wires.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Solid welding wires in massive form are not subject to MARPOL73/78 and the IBC Code.

15 REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Prepared according to EU Directives 2015/830. Classifications mentioned in section 3 concerns substances in their crushed form. Solid welding wires in massive form do not require labeling under current chemical product classification and labeling regulations, if they are not classified as hazardous to health and environment. Welding electrodes in particulate form e.g. dust, fumes, mist may cause an allergic reaction on contact with skin or if inhaled.

WARNING: Welding fumes and gases are hazardous to your health

ELECTRIC SHOCK can kill.

ARC RAYS and SPARKS can injure eyes and burn skin.

Using DPI during operations.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the product.

Canada:

WHMIS classification: Class D; Division 2, Subdivision A Canadian Environmental Protection Act (CEPA): All constituents of this product are on the Domestic Substance List (DSL)

USA:

Under the OSHA Hazard Communication Standard, this product is considered hazardous. This product contains or produces a chemical known to the state of California to cause cancer and birth defects (or other reproductive harm). United States EPA Toxic Substances Control Act: All constituents of this product are on the TSCA inventory list or are excluded from listing.

Section 311 Hazard Class

As shipped: Immediate - During use: Immediate delay

16. OTHER INFORMATION

Because of new adjustments to some paragraphs the present safety data sheet has been corrected and it replaces the SDS Rev 1 of 2017

Protect yourself and others. Take precautions when welding. Follow your employers' safety practice, which should be based on manufacturer's hazard data available to your employer. Fumes and gases can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. Read and understand the manufacturer's instructions and your employer's safety practices. Keep your head out of the fumes. Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone, and the general area. Wear correct eye, ear and body protection. Do not touch live electrical parts.

U.K.: see WMA No.236 and 237 and HSE Guidance Note EH 40.

U.S.A.: See American Standard Z 49.1 "Safety in Welding and Cutting", published by the American Welding Society, 550 Le Jeune Rd, Miami, Florida 33126-5699; OSHA Safety and Health Standards, 29 CFR 1910, available from U.S. Government printing office, Washington D.C. 20402-0001.

GERMANY: Unfallverhütungsvorschrift BGV D1, "Schweißen, Schneiden und verwandte Verfahren".

CSA Standard CAN/CSA-W117.2-01 "Safety in Welding, Cutting and allied processes"

FULL TEXT OF H-PHRASES EVENTUALLY USED IN SECTION 3

All national/local prescriptions remain applicable. The data given in this sheet relate to the unused product, unless specified otherwise. During usage dangerous products can be formed (welding fume, radiation, etc.).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.