



# SAFETY DATA SHEET

## WELDSTAR Mild Steel Mig Wire

Version number: 1  
Replaces SDS: WS0002  
Issued: 2015-04-27

Not for sale in the USA

### Section 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### 1.1 Product identifier

**Trade name** Carbon Steel Electrodes and Rods for Gas Shielded Arc Welding

**Article-no**

Product/Article	Diameter(mm)	Packaging (kg)	Part Number
Mild Steel MIG Wire	0.8mm	5	HSM7008MWS
Mild Steel MIG Wire	0.9mm	5	HSM7009MWS
Mild Steel MIG Wire	0.9mm	15	HSM7009WS
Mild Steel MIG Wire	1.2mm	15	HSM7012WS

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

**Article type** GMAW/GTAW Un-alloyed steel wire electrodes & Rods Classification: AWS SFA 5.18

**Use** Gas shielded Arc welding

#### 1.3 Details of the supplier of the safety data sheet

**Supplier** South Pacific Welding Group Pty Ltd

**Street address** 1/15 Westgate Street

Wacol

Australia

**Telephone** 1300 WLEDER, 1300 935 337

**Fax** 07 3879 4130

**Email** info@spwgroup.com.au

#### 1.4 Emergency telephone number

**Available outside office hours** No

**Emergency phone number** 1300 935 337 (Aus)

Other

**Additional product information** **Web site:** [www.spwgroup.com.au](http://www.spwgroup.com.au)



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### Section 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

As shipped the product is:

**Not Classified as Hazardous according to Australian, New Zealand and European regulations (refer Section 15 for references)**

**Not a Dangerous Good for Transport by road, rail, air or sea according to Australian, New Zealand, European, IMO, and IATA.**

*GHS Classification* Not Classified

#### 2.3 Label Elements

Not Applicable

#### 2.3 Other hazards

When the product is used in the welding process the most important hazards are:  
Overexposure to fumes and gases from welding can be dangerous to health released from the welding process may release products that are classified as hazardous and can be dangerous to health. Refer to Section 16 for more information.  
Watch out for splatter, hot metal and slag. It may cause skin burn and cause fire.  
Arc rays can injure eyes and burn skin. Electric shock can kill. Avoid touching live electrical parts.

### Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.1 Substances

This product is a mixture and please refer to Section 3.2

#### 3.2 Mixtures

AWS Clas's	Fe %	C %	Mn %	Si %	Cu <sup>1</sup> %	Ti %	Zr %	Al %
CAS Number	7439-89-6	7440-44-0	7439-96-5	7440-21-3	7440-50-8	7440-32-6	7440-67-7	7429-90-5
ER70S-2	>97	0.07	0.90 to 1.40	0.40 to 0.70	<0.5	0.05 to 0.15	0.02 to 0.12	0.05 to 0.15
ER70S-3	>97	0.06 to 0.15	0.90 to 1.40	0.45 to 0.70	<0.5			
ER70S-4	>97	0.07 to 0.15	1.00 to 1.50	0.65 to 0.85	<0.5			
ER70S-5	>97	0.07 to 0.19	0.90 to 1.40	0.30 to 0.60	<0.5			
ER70S-6	>96	0.07 to 0.15	1.40 to 1.85	0.80 to 1.15	<0.5			
ER70S-7	>96	0.07 to 0.15	1.50 to 2.00	0.50 to 0.80	<0.5			

## Section 4. FIRST AND MEASURES

### 4.1 Description of first aid measures

<b>Inhalation</b>	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.
<b>Skin contact</b>	Burns should be treated by a doctor. Wash affected areas with running water/soap. Seek medical attention in event of irritation
<b>Eye contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Burns from radiation, see doctor.
<b>Ingestion</b>	Contact a doctor if more than an insignificant amount has been swallowed.

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

<b>Inhalation</b>	Welding can generate fumes, mists, dust, vapours and gases, including ozone. The amounts and types of fumes produced vary greatly depending on the process involved and the materials being used such as metals, solvents, flux, paint and plastics. The health effects of exposure to fumes, dust, vapour and gases can vary. Effects can include irritation of the upper respiratory tract (nose and throat), tightness in the chest, asphyxiation, asthma, wheezing, metal fume fever, lung damage, bronchitis, cancer, pneumonia or emphysema.
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### 4.3 Indication of any immediate medical attention and special treatment needed

Acute effects include irritation of the eyes, nose and throat, shortness of breath  
Some individuals may develop skin irritation.

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Carbon dioxide (CO <sub>2</sub> ), powder or diffuse jet of water. In case of major fire: Extinguish fire with diffuse jet of water or foam.
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### 5.2 Special hazards arising from the substance or mixture

Avoid contact with strong acids or other substances which are corrosive to metals

### 5.3 Advice for fire fighters

<b>Special protective equipment for fire fighters</b>	Wear self contained breathing apparatus as in a fire welding rods may decompose on heating and produce hazardous decomposition products
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## Section 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Skin contact should be avoided to prevent possible allergic reactions.

### 6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

### 6.3 Methods and material for containment and cleaning up

Spills to be cleaned up immediately using dry clean up methods and avoid dust generation  
Use appropriate PPE to prevent contact with skin  
Ensure good hygiene practices following clean up

### 6.4 Reference to other sections

Personal protection see section 8 and for disposal see section 13. Environmental precautions, paragraph 12. See also section 7 Precautions for safe handling.

## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Preventive handling precautions

Ensure adequate ventilation for the welder and others. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Remove all flammable materials and liquids before welding.

#### General hygiene

Wash hands before breaks and immediately after handling the product.

### 7.2 Conditions for safe storage, including any incompatibilities

Store welding consumables inside a room with low humidity. Do not store welding consumables directly on the ground or beside walls. Store away from chemical substances like acids which could cause chemical reactions.

### 7.3 Specific end use(s)

Welding process.

**Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

8.1 Control parameters

Welding fume component	CAS No.	TWA <sup>1</sup> (mg/m <sup>3</sup> )	STEL <sup>1</sup> 15min TWA	Hazard Classification 67/548/EC	Hazard Classification (GHS) 1272/2008
Welding fumes (not otherwise classified)	-	5		R43	H351 Carc.2
Iron oxide fume (as Fe)	1309-37-1	5			
Manganese and its inorganic compounds (as Mn)	7439-96-5 and others	1	3	R20/R22	H332 Acute Tox.4
Copper Fume	7440-50-8	0.2			
Zinc oxide (fume)	1314-13-2	5	10		
Titanium dioxide (inspirable dust)	13463-67-7	10			
Silica, amorphous (Fume (thermally generated)(respirable dust) (g))	-	2			
Aluminium Inhalable Respirable dust	1344-28-1	10 4			
Zirconium compounds	7440-67-7	5	10		
Nitrogen dioxide	10102-44-0	5.6	9.4		
Nitrogen monoxide	10102-43-9	31	0		
Ozone	10028-15-6	0,2 peak limitation			
Carbon dioxide	124-38-9	9000	54000		
Carbon monoxide	630-08-0	34			

1. Extracted from Safework Australia, Hazardous Substances Information System (HSIS) & Worksafe New Zealand Table of workplace exposure standards

8.2 Exposure controls

*Environmental Exposure Controls – refer to Section 12 of this SDS*

**Technical precaution measures**

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits.

**Eye / face protection**

Workers should always have their eyes, face and/or head protected whenever they are welding. For further information refer to: AS/NZS 1338: (series) Filters for eye protectors, AS/NZS 1338.1: Filters for eye protectors - Filters for protection against radiation generated in welding and allied operations and AS/NZS 1336: *Recommended practices for occupational eye protection* and AS/NZS 1337: *Eye protectors for industrial applications*

<b>Hand/Arm protection</b>	Gloves should be fire resistant and protect exposed skin on the hands and wrists. For further information refer to: <i>AS/NZS 2161: (series) Occupational protective gloves.</i>
<b>Other skin protection</b>	Avoid clothing that has the potential to capture hot sparks and metals, for example in pockets or other folds. Clothing should be made of natural fibres. For further information refer to: <i>AS/NZS 4502: (series) Methods for evaluating clothing for protection against heat and fire.</i> Foot protection should be non-slip and be heat and fire resistant. Avoid using foot protection that has the potential to capture hot sparks and metal debris, for example in laces or in open style shoes. For further information refer to: <i>AS/NZS 2210: (series) Occupational protective footwear</i> and <i>AS/NZS 2210.1: Safety, protective and occupational footwear - Guide to selection, care and use.</i>
<b>Respiratory protection</b>	Respirators should be fitted for each person individually and if one is to be used by another operator, it must be disinfected and refitted before use. The tightness of all connections and the condition of the face piece, headbands and valves should be checked before each use. Air supplied respirators may be required in some situations, e.g. confined spaces. For further information refer to: <i>AS/NZS 1716: Respiratory protective devices</i> and be selected in accordance with <i>AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.</i>

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance, colour</b>	Generally grey or coppered coloured when coated
<b>Appearance, physical state</b>	Metal wire or Rod
<b>Auto-ignition temperature</b>	Not applicable
<b>Auto-inflammability</b>	Not auto-flammable
<b>Decomposition temperature</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Explosive properties</b>	Not explosive
<b>Flammability (solid gas)</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Form</b>	Fast
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Melting point / Freezing point</b>	Not applicable
<b>Odour</b>	Odourless
<b>Odour threshold</b>	Not applicable
<b>Oxidising properties</b>	Not applicable

<b>Partition coefficient: n-octanol / water</b>	Not applicable
<b>pH value</b>	Not applicable
<b>Relative density</b>	Not applicable
<b>Solubility</b>	Not applicable
<b>Solubility in water</b>	Insoluble
<b>Upper / lower flammability or explosive limits</b>	Not applicable
<b>Vapour density</b>	Not applicable
<b>Vapour pressure</b>	Not applicable
<b>Viscosity</b>	Not applicable

9.2 Other information

**Density** 7.98g/cm<sup>3</sup>

**Section 10. STABILITY AND REACTIVITY**

10.1 Reactivity

Reactive with incompatible materials such as strong acids/corrosives

10.2 Chemical stability

Stable at normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur

10.4 Conditions to avoid

None under normal conditions

10.5 Incompatible materials

Strong acids and metal corrosives

10.6 Hazardous decomposition products

Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material.

Welding fume component	CAS No.	Classification (67/548EEC)	CLP (1272/2008)		Concentration of classified fume components
Aluminium oxide (Al)	1344-28-1	-	-	-	<0.1
Barium (Ba)	7440-39-3	-	-	-	<0.1
Bismuth oxide (Bi)	12640-40-3	-	-	-	<0.1
Calcium (Ca)	1305-78-8	-	-	-	<0.1 to 0.2

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Cobalt oxide (Co)	1307-96-6	R22: Harmful if swallowed R43: May cause sensitisation by contact	Acute tox 4 (oral) Skin sens. 1	H302 H317	<0.1
Chromium III compounds (as Cr)	24613-89-6	R45: May cause cancer R35: Causes severe burns R43: May cause sensitisation by skin contact	Carc. 1B Skin Corr. 1A Skin Sens. 1	H350 H314 H317	<0.1
Copper oxide (Cu)	1317-38-0	-	-	-	0.3 to 1.1
Iron oxide (Fe)	1332-37-2	-	-	-	45.8 to 61.4
Potassium (K)	7440-09-7	R34: Causes burns	Skin Corr. 1B	H314	<0.1
Lithium (Li)	7439-93-2	R34: Causes burns	Skin Corr. 1B	H314	<0.1
Magnesium oxide (Mg)	1309-48-4	-	-	-	<0.1
Manganese (Mn)	7439-96-5	-	-	-	6.3 to 15.0
Molybdenum (Mo)	7439-98-7	Molybdenum trioxide R36/37: Irritating to eyes and respiratory system R40: Limited evidence of carcinogenic effect	Molybdenum trioxide Carc. 2 Eye Irrit. 2 STOT SE 3	H351 H319 H335	<0.1
Sodium (Na)	7440-23-5	R34: Causes burns	Skin Corr. 1B	H314	<0.1
Nickel (Ni)	7440-02-0	R40: Limited evidence of carcinogenic effect R43: May cause sensitisation by skin contact R48/23: Toxic danger of serious damage to health by prolonged exposure through inhalation R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	Carc. 2 Skin sens 1 STOT RE 1	H351 H317 H372	<0.1
Lead (Pb)	7439-92-1	-	-	-	<0.1
Silicon (Si)	7440-21-3	-	-	-	1.3 to 4.8
Titanium dioxide (Ti)	13463-67-7	-	-	-	<0.1
Vanadium (V)	7440-62-2	-	-	-	<0.1
Zinc (Zn)	7440-66-6	-	-	-	<0.1 to 0.7

The classification information above is related to the fume during use.



Approximate Fume analysis (electrode & clean base material):

Component	wt%
Calcium	0.1 to 0.2
Iron	45.8 to 61.4
Manganese	6.3 to 15
Silicon	1.3 to 4.8
Zinc	0.1 to 0.7

## Section 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Conditions to avoid: none in the form supplied

When welding, fumes and gases generated can be dangerous to health.

<b>Acute toxicology</b>	Welding operations may evolve fumes that may be irritating to the respiratory tract and harmful if inhaled. Aspiration may cause pulmonary oedema and pneumonitis Short-term overexposure can cause dizziness, nausea and irritation of the nose, throat or eyes.
<b>Irritation</b>	Manganese fumes – Eye (rabbit) 500 mg/24hr Mild - Skin (rabbit) 500 mg/24 hr Mild
<b>Corrosive effects</b>	Not available
<b>Sensitisation</b>	May cause sensitisation by skin contact
<b>Mutagenicity</b>	Not available
<b>Carcinogenicity</b>	Welding fumes are possibly carcinogenic to humans and have been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans
<b>Repeated dose toxicity</b>	Not available
<b>Reproductive toxicity</b>	Not available

## Section 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

The welding process can effect the environment if fume is released directly into the atmosphere. Residues from welding consumables could degrade and accumulate into soils and ground water.

### 12.2 Persistence and degradability

Not available

### 12.3 Bio accumulative potential

Not available



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### 12.4 Mobility in Soil

Not available

### 12.5 Results of PBT and vPvB assessment

Not available

### 12.6 Other adverse effects

Not available

## Section 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Disposal considerations

Recycle packing materials. Dispose of any product, residue or packing material according to national and local regulations. Spent; fume extraction filters shall be disposed of as hazardous waste.

## Section 14. TRANSPORT INFORMATION

### 14.1 UN number

Not applicable

### 14.2 UN proper shipping name

Not applicable

### 14.3 Transport hazard class(es)

Not applicable

### 14.4 Packing group

Not applicable

### 14.5 Environmental hazards

Not applicable

### 14.6 Special precautions for user

Not applicable

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

Not applicable

Other

**Dangerous goods** Not classified as a dangerous good for transport by air, land, or sea

## Section 15. REGULATORY INFORMATION

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

**EU regulations** *Dangerous Goods Regulations/2014 (IATA)*

*International Maritime Dangerous Goods/2012 (IMO)*

*Regulation (EC) No 1271/2008 [CLP]*

*Dangerous Substances Directive (67/548/EEC)*

**National regulations**

*Model Work and Safety Regulations 2014 (Safework Australia)*

*Hazardous Substances [Classification] Regulations 2001 [New Zealand]*

*Australian Code for the transport of Dangerous Goods by Road and Rail Volume 7/2011 (NTC)*

*Land Transport Rule 45001/1 (New Zealand)*

*Local laws and regulations should be carefully observed.*

### 15.2 Chemical safety assessment

*Not applicable*

## Section 16. OTHER INFORMATION

**References to key literature and data sources** Regulation (EC) No 1907/2006 of the European Parliament and of the Council, (REACH).  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council.  
Safework Australia: Hazardous Substances Information System (HSIS)  
Worksafe New Zealand: Table of workplace exposure standards  
Annex VI CLP Regulation (EC) 1272/2008  
Safework Australia: Code of Practice : Welding Processes/2012

Other

**Manufacturer's notes** *Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.*

**Details of Hazards relating to fumes** As a result of intended normal use, decomposition products that are classified as Hazardous may be released.

**GHS Classification** Acute Toxicity – Inhalation (Hazard Category 4)  
Sensitisation – Skin (Hazard Category 1)  
Carcinogenicity (Hazard Category 2)

**Hazard statement(s)** H317 - May cause an allergic skin reaction  
H332 – Harmful if inhaled  
H351 – Suspected of causing cancer

**Precautionary statements (s):** **Prevention**  
P261 -Avoid breathing dust/fume/gas/mist/ vapours/spray  
P271 - Use only outdoors or in a well-ventilated area.  
P272 - Contaminated work clothing should not be allowed out of the workplace.



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- P280 - Wear protective gloves  
P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P281 - Use personal protective equipment as required.

### **Response**

- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P311 - Call a POISON CENTER or doctor/physician.  
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P308 + P313 - IF exposed or concerned: Get medical advice/attention.  
P302 + P352 -IF ON SKIN: Wash with plenty of soap and water.  
P321 - Specific treatment (refer label)  
P363 - Wash contaminated clothing before reuse.

### **Storage**

- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

### **Disposal**

- P501 - Dispose of contents/container in accordance with local , state and national regulations.

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