



## PRODUCT DATA CONSUMABLES

# DURALLOY S-13Z

### SECTION 1: PRODUCT & COMPANY IDENTIFICATION

<b>PRODUCT TYPE:</b>	Covered Arc Welding Electrode For Mild Steel	<b>SUPPLIER NAME:</b>	Duralloy
<b>TRADE NAME:</b>	DURALLOY S-13Z	<b>ADDRESS:</b>	2 Hollylea Rd LEUMEAH NSW 2560
<b>CLASSIFICATION:</b>	AWS A5.1: E6013	<b>PHONE:</b>	1300 369 456
		<b>FAX:</b>	(02) 4620 6923
		<b>WEBSITE:</b>	www.duralloy.net.au

### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components (Specific Chemical Identity)	Common Name (S)	% By Weight	Exposure Limit (mg/m <sup>3</sup> )	
			ACGIH TLV <sup>(1)</sup>	OSHA PEL <sup>(2)</sup>
1. Aluminium oxide	1344-28-1	1 - 3	1R*	5R*
2. Calcium carbonate	1317-65-3	1 - 3	5R*, 5(as CaO)	3R*, 2(as CaO)
3. Cellulose and other carbohydrates	65996-61-4	2 - 4	10	5R*, 15(dust)
4. Iron	7439-89-6	70 - 90	5R*	10(fume)
5. Manganese	7439-96-5	< 1	0.1I*, 0.2R*	1, 3**, 5***(fume)
6. Potassium oxide	12136-45-7	< 2	3R*	5R*
7. Silicates and other binders	1344-09-8	1 - 5	N/A	N/A
8. Silicates crystalline, Quart	14808-60-7	1 - 3	0.1R*	0.05R*
9. Sodium oxide	1313-59-3	< 2	3R*	5R*
10. Titanium dioxide	13463-67-7	4 - 7	10	5R*, 15(dust)

(1) American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV)

(2) Occupational Safety and Health Administration 29 CFR 1910.1000 Permissible Exposure Limit (PEL)

R*	Respirable Fraction	Sol	Soluble	N/A	No Information available
I*	Inhalable Fraction	Cpnds	Compounds	TWA	Time Weighted Average
**	Ceiling Limit	***	Short Term Exposure Limit		

# DURALLOY®

## PRODUCT DATA CONSUMABLES

### DURALLOY S-13Z

#### SECTION 3: HAZARDS IDENTIFICATION

**Emergency overview:** Coated metal rods with varying colors. These products are normally not considered hazardous as shipped. Gloves should be worn when handling to prevent contaminating hands with product dust. These hazards relate to welding fumes (electrodes in use) and not to the electrodes as sold.

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures and electrodes used. Most fume ingredients are present as complex oxides and compounds and not as pure metals. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 2. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in this section, plus those from the base metal and coating, etc., as noted above. Monitor for the materials identified in the list within this section.

Fumes from the use of this product may contain complex oxides or compounds of the following elements and molecules: amorphous silica fume, calcium oxide, chromium, fluorspar or fluorides, manganese, nickel, silica and zirconium. Other reasonably expected constituents of the fume would also include complex oxides of iron, titanium, silicon and molybdenum.

Gaseous reaction products may include carbon monoxide and carbon dioxide.

Ozone and nitrogen oxides may be formed by the radiation from the arc. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1, available from the "American Welding Society", Also, from AWS is F1.3 "Evaluating Contaminants in the Welding Environment - A Sampling Strategy Guide", which gives additional advice on sampling.

#### SECTION 4: FIRST-AID MEASURES

<b>Inhalation:</b>	If inhaled, remove to fresh air, if not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Eye contact:</b>	For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.
<b>Skin contact:</b>	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.
<b>Electric shock:</b>	Disconnect and turn off power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). Immediately call a physician.
<b>General:</b>	Move to fresh air and call for medical aid.

# DURALLOY®

## PRODUCT DATA CONSUMABLES

### DURALLOY S-13Z

#### SECTION 5: FIRE-FIGHTING MEASURES

No specific 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. Wear self-contained breathing apparatus as fumes of vapors may be harmful.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.

**Personal precautions:** Refer to section 8

**Environmental precautions:** Refer to section 13

#### SECTION 7: HANDLING AND STORAGE

**Prevention of electric shock:** Do not touch live electrical parts such as the welding wire and welding machine terminals. Wear insulated gloves and safety boots.

**Prevention of fire and explosion:** Remove flammable and combustible materials and liquids.

**Prevention of harm when handling welding consumables:** Handle with care to avoid stings and cuts. Hold the welding wire manually when loosening the wire.

**Caution for storage:** Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside a wall. Keep welding consumables away from chemical substances like acids which could cause chemical reactions.

#### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Read and understand the instructions and the labels on the packaging.

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

**Engineering measures:** 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:** Use respirator or air supplied respirator when welding or brazing in a confined space, or where local exhaust or ventilation is not sufficient to keep exposure values within safe limits. Use special care when welding painted or coated steels since hazardous substances from the coating may be emitted. Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry.

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits.

# DURALLOY®

## PRODUCT DATA CONSUMABLES

### DURALLOY S-13Z

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Solid, non-volatile with varying color
<b>Odor:</b>	Odorless
<b>Form:</b>	Round wire

#### SECTION 10: STABILITY AND REACTIVITY

<b>General:</b>	This product is intended only for normal welding purposes.
<b>Stability:</b>	This product is stable under normal conditions.
<b>Reactivity:</b>	Contact with chemical substances like acids could cause generation of gas.

Hazardous decomposition products includes those from the volatilization, reaction or oxidation of the materials listed in section 2 and those from the base metal and coating.

Reasonably expected fume constituents of this product would include oxides of metals as iron, manganese and chromium.

Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone.

#### SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation of welding fumes, dust and gases can be hazardous for health. The composition and quantity of both are dependent upon the material being worked, the process, procedures, and consumables used.

**Acute toxicity:** Overexposure to welding fumes and dust may result in symptoms like dizziness, nausea, dryness or irritation of the nose, throat or eyes.

**Chronic toxicity:** Overexposure to welding fumes may affect pulmonary function. Overexposure of manganese may affect the nervous system.

#### SECTION 12: ECOLOGICAL INFORMATION

Welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

#### SECTION 13: DISPOSAL CONSIDERATIONS

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

#### SECTION 14: TRANSPORT INFORMATION

No international regulations or restrictions are applicable. No special precautions are necessary.

# DURALLOY®

## PRODUCT DATA CONSUMABLES

### DURALLOY S-13Z

#### SECTION 15: REGULATORY INFORMATION

- Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.
- **WARNING:** Welding fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation.
- ELECTRIC SHOCK can kill.
- ARC RAYS and SPARKS can injure eyes and burn skin.
- Wear correct hands, head, eyes and body protection.

#### SECTION 16: OTHER INFORMATION

DURALLOY requests the users of these products to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of these products a user should:

- Notify its employees, agents and contractors of the information on this MSDS and any product hazards/safety information.
- Furnish this same information to each of its customers for the product.
- Request such customers to notify employees and customers for the same product hazards and safety information.

The information herein is given in good faith and based on technical data that DURALLOY believes to be reliable. Since the conditions of use is outside our control, we assume on liability in connection with any use of this information and no warranty, expressed or implied is given. Contact DURALLOY for more information.

--END OF DOCUMENT --