

PROCUS WELDING & INDUSTRIAL SUPPLIES PTY LTD

ACN 092 223 919

4 St James Place
PO Box 724
Seven Hills NSW 2147

Telephone: (02) 9624 8988
Telephone Emergency: (02) 9624 8988
Fax Number: (02) 9624 1908

MATERIAL SAFETY DATA SHEET

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PROCUS 23

SECTION 1. IDENTIFICATION

UN No. None
POISON SCHEDULE No. None
HAZCHEM None
DANGEROUS G. CLASS None
PACKAGING GROUP None
USE: Bare Hardfacing Rod

SECTION 2 COMPOSITION

<u>INGREDIENT(S)</u>	<u>CAS NO</u>	<u>PROPORTION %</u>
Tungsten Carbide	7440-33-7	40-50
Copper	7440-50-8	20-30
Zinc	1314-13-2	20-30
Nickel	7440-02-0	1-10

SECTION 3 PHYSICAL DATA

APPEARANCE

Gold coloured bare hardfacing rod.

Flash Point (C) Not applicable
Solubility in Water Not applicable
Lower Explosive Limit (%) Not applicable
Upper Explosive Limit (%) Not applicable

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Non combustible but welding arc and sparks can ignite combustibles and flammables.

SECTION 5 HEALTH HAZARD DATA

Electric arc welding may create one or more of the following health hazards: Fumes and gases can be dangerous to your health. Arc Rays can injure eyes and burn skin. Electric Shock can kill.

Nickel is classified as IARC as Group 1 Carcinogenic to humans. There is little information on the effects on welders of fumes containing nickel.

EFFECTS OF OVEREXPOSURE: Short - term over exposure to welding fumes may result in discomfort such as dizziness, nausea or dryness or irritation of nose, throat or eyes, lightness in chest, fever and allergic reactions. Long - term (chronic) overexposure to welding fumes may lead to siderosis (iron deposit in lungs) and is believed by some investigators to affect pulmonary function.

EMERGENCY & FIRST AID PROCEDURES; Remove to fresh air, employ first aid techniques and obtain medical attention.

REACTIVITY DATA:

Hazardous Decomposition Products: The composition and quality of welding fumes and gases are dependent upon the metal being welded, the process, procedures, and electrodes used. 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 galvanising), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welders head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapours from cleaning and degreasing activities). 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. Fume and gas decomposition products and not the ingredients in the electrode are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration in the electrode. Also new compounds not in the electrode may form. Decomposition products of normal operation include those originating from the volatilisation, reaction, or oxidation of the materials shown in Section 2, plus those from the base metal and coating, etc. as noted above.

SECTION 6 PRECAUTIONS FOR USE

Ventilation: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

Respiratory: Use respirable fume respiratory or air supplied respirator when welding in a confined space or where local exhaust or ventilation does not keep exposure below the recommended exposure limit.

Eye: Wear helmet or use face shield with filter lens. Provide protective screens and flash goggles if necessary to shield others.

Protective Clothing: Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shocks. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and the ground.

Other: Use exhaust system to clear welding fumes. Make sure that inhaled air does not contain fume constituents above permissible exposure levels.

Reasonably expected fume constituents of these products could include primarily oxides of iron: secondarily complex oxides of manganese, silicon, chromium, molybdenum along with fluorides. The OSHA permissible exposure limits and ACGIH threshold limit values for hexavalent chromium is 0.05mg/M3. Welding fumes may also contain fluorides and OSHA permissible exposure limit and ACGIH threshold value for fluorides is 2.5mg/M3. It is to be noted that all the above will result in significant reduction from the 5mg/M3 general fume level.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the welder's helmet if worn or inside the worker's breathing zone.

SECTION 7 SAFE HANDLING INFORMATION

STORAGE and TRANSPORT: Store in a cool dry atmosphere.

SPILLS and DISPOSAL: Scrap should be recycled

TRANSPORTATION: No restrictions.

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