

MATERIAL SAFETY DATA SHEET**SECTION I - IDENTIFICATION**

SUPPLIER NAME: MAP CANADA LTD. **Telephone:** 905-951-2788
TRADE NAME: SUPER MIG 70 (SM-70) **Emergency:** 800-757-4445
CLASSIFICATION: AWS A5. 18 ER70S-6 MILD STEEL
DIN EN440 G3Si1
PRODUCT TYPE: GAS METAL ARC WELDING (GMAW) SOLID WIRE

SECTION II – HAZARDOUS MATERIALS

IMPORTANT: This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with normal use of this product are covered by section V.
The term “hazardous” in “hazardous materials” should be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR parts 1910.1200). Threshold limit values according to American Conference of Governmental Hygienists, 2007

Ingredient	% Weight	Exposure Limit (mg/m3) TLV	CAS#
IRON	96 – 99	5	7439-89-6
MANGANESE	< 2	0.2	7439-96-5
SILICON	< 1.5	5	7440-21-3
COPPER	< 0.5	0.2	7440-50-8
SULPHUR	<0.05	Not Reported	7704-34-9
CARBON	<0.1	Not Reported	7440-44-0

SECTION III – PHYSICAL / CHEMICAL CHARACTERISTICS

NOT APPLICABLE

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Non flammable: Welding arc sparks can ignite combustibles. See Z49.1 referenced in Section VII.

SECTION V – REACTIVITY DATA**Hazardous Decomposition Products**

Welding fumes and gases cannot be classified simply. The composition and quality of both 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 galvanizing), 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 II. Decomposition products of normal operation those originating from volatilization, reaction, or oxidation of the materials shown in section II, plus those from the base metal and coating, etc., as noted above

It is understood, however, that the elements and or oxides to be mentioned are virtually always present as complex oxides and not as metals. The elements or oxides listed below correspond to the ACGIH categories located in (TLV Threshold Limit Values for Chemical Substances and Physical Agents in the Work Room Environment).

Reasonably Expected constituents of the fumes would include: complex oxides of iron, manganese, silicon and copper.

MATERIAL SAFETY DATA SHEET**SECTION V – REACTIVITY DATA cont'd**

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from arc.

One recommended way to determine the composition and quantities 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", P.O. box 351040, Miami, FL., 33135. Also from AWS is F1.3 "Evaluating Contaminants in the Welding Environments – Sampling Strategy Guide", which gives additional advice on sampling). At a minimum, materials listed in this section should be analyzed.

SECTION VI – HEALTH HAZARD DATA

Threshold Limit Value:

The ACGIH recommended general limit for Welding Fume NOC (Not otherwise Classified) is 5 mg/m³. ACGIH-1998 preface states the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See section V for specific fume constituents which may modify this TLV.

Effects of Overexposure:

Electric arc welding may create one or more of the following health hazards:

FUMES AND GASES can be dangerous to your health.

SHORT TERM (ACUTE) OVEREXPOSURE to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat or eyes.

PRIMARY ROUTES OF ENTRY are the respiratory system, eyes and / or skin.

IRON, IRON OXIDE, MANGANESE – Remove from overexposure and apply artificial respiration if needed. Wash eyes or skin with water to remove dusts.

LONG-TERM (CHRONIC) OVEREXPOSURE may lead to siderosis (iron deposit in lungs) and is believed by some investigators to affect pulmonary functions.

IRON, IRON OXIDE – Long term overexposure to iron fumes can cause deposit of iron in the lung. This condition is called "siderosis". Lung will clear in time when exposure to iron and its compounds ceases. Iron and Magnetite (Fe₃O₄) are not regarded as fibrogenic materials.

MANGANESE – Long Term overexposure to manganese compounds may affect the central nervous system. Symptoms include muscular weakness, tremors similar to Parkinson's disease. Behavioural changes and changes in handwriting may also appear. Employees exposed to manganese compounds should get quarterly medical examinations for early detection of manganism.

ARC RAYS can injure eyes and burn skin

ELECTRIC SHOCK can kill.

See section VII

Emergency and First Aid Procedures

Call for medical aid. Employ first aid techniques recommended by The American Red Cross.

Eyes & Skin: If irritation or flash burns develop after exposure, consult physician.

Carcinogenicity

These products do not contain ingredients that are defined as carcinogenic per 29CFR 1910.1200 – Hazard Communications Standard.

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SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE / APPLICABLE CONTROL MEASURES

Read and understand the manufacturer's instructions and the precautionary label on the product. (See American National Standard Z49.1. Safety in Welding and cutting published by the American Welding Society P.O. Box 351040, Miami, FL 33135 and OSHA Publication 2206 (29CFR1910). U.S. Government Printing Office, Washington, D.C 20402. For more detail on many of the following:

VENTILATION: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases below TLV's in the workers breathing zone and in the general area. Train the welder to keep his head out of the fumes.

RESPIRATORY PROTECTION: Use NIOSH approved or equivalent fume respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV.

EYE PROTECTION: Wear helmet or use face shield with filter lenses. As a rule of thumb begin with Shade number 14. Adjust if needed by selecting the next lighter and or darker shade number. 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 shock. See ANSI Z49.1. At 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 ground.

PROCEDURE FOR CLEANUP OF SPILLS OR LEAKS: Not applicable.

WASTE DISPOSAL: Prevent waste from contaminating surrounding environment. Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulation.

SPECIAL PRECAUTIONS: IMPORTANT: Maintain exposure below the PEL/TLV. Use industrial hygiene monitoring to ensure that the use of this of this material does not create exposures which exceed PEL/TLV. Always use exhaust ventilation. Refer to the following sources for important additional information.

ANSI Z49.1 The American Welding Society, P.O. Box 351040, Miami, FL 33135 – OSHA (29CFR1910) U.S. Dept. of Labor, Washington D.C. 20210.

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