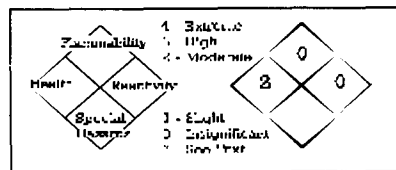


Product: **WELDMARK 70S-6 PLUS**

Date: **4/15/02**



SECTION IV - HEALTH HAZARD DATA

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOC - (Not Otherwise Classified) is 5 mg/m^3 . ACGIH-1999 preface states that 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. Threshold Limit Values are figures published by the American Conference of Government Industrial Hygienists. Units are milligrams per cubic meter of air.

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. Common entry is by inhalation. Other possible routes are skin contact and ingestion.

Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema).

Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and may affect pulmonary function. Manganese overexposure can affect the central nervous system, resulting in impaired speech and movement. Bronchitis and some lung fibrosis have been reported. **WARNING:** This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

Arc Rays can injure eyes and burn skin. *Skin cancer has been reported.*

Electric Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, or if there is a high risk of unavoidable or accidental contact with workpiece, use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross.
IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques.
IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

SECTION V - REACTIVITY DATA

Hazardous Decomposition Products: Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure 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 worker 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.)

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 include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxide; secondarily complex oxides of copper, manganese, and silicon when used with gas shielding.

Maximum fume exposure guideline for this product (based on manganese content) is 1.5 milligrams per cubic.

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

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.2, F1.3, F1.4, and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

SECTION VI AND VII

CONTROL MEASURES AND PRECAUTIONS FOR SAFE HANDLING AND USE

Read and understand the manufacturer's instruction and the precautionary label on the product. See American National Standard Z49.1, 'Safety In Welding, Cutting and Allied Processes' published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL, 33126 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more details on many of the following:

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. *Keep exposure as low as possible.*

Respiratory Protection: Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Eye Protection: Wear helmet or use face shield with filter lens shade number 12 or darker. Shield others by providing screens and flash goggles.

Protective Clothing: Wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See Z49.1.

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 permit electrically live parts or electrodes to contact skin ... or clothing or gloves if they are wet. Insulate from work and ground.

Disposal Information: Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner according to Federal, State and Local Regulations unless otherwise noted. No applicable ecological information available.

HAZARDOUS INGREDIENTS
MATERIAL SAFETY DATA SHEET

50738

FILLER METALS AND WELDING RODS

APPROVED BY U.S. DEPARTMENT OF LABOR "ESSENTIALLY SIMILAR" TO FORM LSB-OOS-4

| | |
|--|-------------------------------------|
| SECTION I | REV: January 7 th , 2003 |
| MANUFACTURER'S NAME: GYTGÖLS BRUKS AKTIEBOLAG | PHONE NO: +46 122 43040 |
| ADDRESS (Number, Street, City, State and ZIP code): S-610 11 GRYTGÖL | SWEDEN |
| TRADE NAME: WELDMARK GB 76 | |
| AWS CLASSIFICATION: A5. 18 Class ER 70S-6+ | |

SECTION II HAZARDOUS INGREDIENTS

| COVERING OR FLUX | WT, % | TLV (UNITS) | OTHER | WT. % | TLV (1) (UNITS) |
|------------------|-------|-------------|-----------|--------------|--------------------------|
| | | | Iron | 97,5 | 5 mg/m ³ 2) |
| | | | Manganese | 1,40 1,85 | 1 mg/m ³ 2) |
| | | | Silicon | 0,80 1,15 | 10 mg/m ³ 3) |
| | | | Copper | 0,10 | 0,1 mg/m ³ 2) |
| | | | Copper | 0,10 | 1,0 mg/m ³ 4) |

1) OSHA -American Conferense of Governmental Industrial Hy gienists 1989-90 ed.

2) As oxide fume

3) Nuisance 10 mg/m³ of total dust

4) As dust

SECTION III PHYSICAL DATA

Not Applicable

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Welding arc and sparks can ignite combustibile products.

SECTION V HEALTH HAZARD DATA September 15,1989

EFFECTS OF OVEREXPOSURE: Short term overexposure to welding fumes may result in dizziness, nausea or dryness or irritation of nose, throat or eyes.

EMERGENCY AND FIRST AID PROCEDURES: Remove to fresh air. Obtain medical attention.

SECTION VI REACTIVITY DATA

| | | | |
|-------------------------------------|----------|---|---------------------|
| STABILITY | UNSTABLE | | CONDITIONS TO AVOID |
| | STABLE | X | |
| INCOMPATABILITY (Material to avoid) | | | |
| HAZARDOUS DECOMPOSITION PRODUCTS: | | | |
| HAZARDOUSE POLYMERIZATION | None | | |

SECTION VII SPILL OR LEAK PROCEDURES

Not Applicable

SECTION VIII SPECIAL PROTECTION INFORMATION (SEE NOTE)

RESPIRATORY PROTECTION (SPECIFY TYPE) Not generally required or in open well ventilated areas. Use weld fume respirator or air supplied respirator when welding in confined space where local exhaust and/or ventilation does not keep exposure below TLV:s 1)

| | |
|-------------|---|
| VENTILATION | LOCAL EXHAUST: Desirable in semi-open areas to help keep exposures below TLV:s 1) |
| | MECHANICAL (General): Essential in all areas where natural ventiaition is not sufficient to keep exposures below TLV:s 1) |

EYE PROTECTION: Wear welding helmet with eye protection lens shade 10 or darker.

PROTECTIVE GLOVES: Welder's Protective Gloves

OTHER PROTECTIVE EQUIPMENT: Welder's leather protective aprons, leggings, boots, shoulder covers, hard hats, screens low reflectivity walls or booths.

SECTION IX SPECIAL PRECAUTIONS

Weld in well ventilated area. Avoid inhalation of welding fumes

OTHER PRECAUTIONS: For additional safety information on welding and cutting, see American National Standards Z49.1-1973, Safety in Welding and Cutting, and the Welding Handbook, Vol.1, Chapter 9, Safe Practices in Welding and Cutting. Both available from 2501 N.W. 7th street, Miami, FL 33125