

**1.- IDENTIFICATION OF PRODUCT AND COMPANY**

- 1.1 Product identification:** **HILO SG2**
- 1.2 Identified pertinent uses of the substance or mixture and uses that are advised against:** Arc welding
- 1.3 Supplier's details:** Classification(s):  
EN ISO 14341-A: G 3Si1 SFA/AWS A5.18: ER70S-6
- 1.4 Emergency telephone number:** Chaves Bilbao S.L.,  
C/Bizkargi, 6 Pol. Ind. Sarrikola  
E-48195 LARRABETZU Bizkaia  
Tel. + 34 94 412 34 56  
www.chavesbao.com
- Toxicology Information Service  
Telephone: Spain: **+34 91 562 04 20** (24/7/365)  
Other: [National support - Poison Centres \(europa.eu\)](#)


**2.- IDENTIFICATION OF HAZARDS**

General Emergency Considerations: This product is normally not considered hazardous when transported. Gloves should be used during handling to avoid cuts or scratches.

- 2.1 Product classification:** N.A.
- 2.2 Label items:** N.A.
- 2.3 Other hazards:** Contact with the skin does not normally carry any risk but there is a possibility of allergic reaction.  
People who wear pacemakers should not approach areas in which welding or cutting operations take place without prior authorisation from both their doctor and the pacemaker manufacturer.  
The greatest risks involved in using this product in welding procedures are as follows: heat, radiation, fumes and electric shock.
- Fumes:**  
Over-exposure to welding fumes can cause dizziness, fever from the metal fumes, nausea and dryness and irritation of the nose, throat and eyes. Continued over-exposure to these fumes can affect pulmonary function. Prolonged inhalation of chromium compounds, above the limits of risk-free exposure, can cause cancer. Overexposure to manganese and manganese compounds above the limits of risk-free exposure can cause irreversible damage to the central nervous system, including the brain, with symptoms that may include difficulty speaking, lethargy, trembling, muscle weakness, psychological alterations and spastic gait.
- Heat:**  
Projections, molten metal and the arc can cause burns and start fires.
- Radiation:**  
The arc can cause serious damage to the eyes and skin.
- Shock:**  
Electric shocks can kill.

**3.- COMPOSITION**

<b>3.2 Mixtures:</b>	<b>SUBSTANCE</b>	<b>CAS No.</b>	<b>%</b>
This product is solid wire.	Chromium (Cr)	7440-47-3	< 0.5
	Copper (Cu)	7440-50-8	< 0.5
	Iron (Fe)	7439-89-6	> 90
	Manganese (Mn)	7439-96-5	1-2
	Silicon (Si)	7440-21-3	< 1

	<b>FORMAT</b>		
	<b>MATERIAL SAFETY DATA SHEET</b>		
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#### 4.- FIRST AID

##### 4.1 Description of first aid

Inhalation	If breathing stops, perform artificial respiration and call for medical help immediately. In case of difficulty breathing, provide fresh air and call a doctor.
Contact with the eyes/skin	For burns caused by the arc, see a doctor. To remove dust or vapour, wash with water for at least 15 minutes. If the irritation persists, request medical assistance. For burns on the skin caused by the arc, wash immediately with cold water. Get medical assistance for burns or irritation that don't improve. To remove dust or particles, wash with neutral soap and water.
Electric shock	Disconnect and turn off. Use a non-conductive material to move the victim so they are no longer in contact with conductive parts or wires. If they are not breathing, start artificial breathing, preferably mouth to mouth. If they don't have a pulse, perform CPR. Call a doctor immediately.

##### 4.2 Main symptoms and acute and delayed effects:

N.A.

##### 4.3 Indication of all medical assistance and special treatments that must be provided immediately.

General: Ventilate the place and seek medical assistance.

#### 5.- FIRE FIGHTING MEASURES

<b>5.1 Extinguishing means:</b>	There are no specific recommendations for welding consumables. The welding arc and its sparks can set fire to fuel and flammable materials. Use recommended extinguishing means for flammable materials and fire situations.
<b>5.2 Specific hazards arising from the substance or mixture:</b>	N.A.
<b>5.3 Recommendations for fire fighting personnel:</b>	Carry your own oxygen tank, as the fumes and vapours may be harmful.

#### 6.- MEASURES IN THE EVENT OF ACCIDENTAL SPILLAGE

<b>6.1 Personal precautions, personal protective equipment and emergency procedures:</b>	See section 8.
<b>6.2 Precautions in relation to the environment:</b>	See section 13.
<b>6.3 Methods and means of contention and cleaning:</b>	Solid materials must be collected and placed in a container. Liquids and pastes must be collected and placed in a container. Use the right protective equipment while handling these materials. Do not throw them away as general waste.
<b>6.4 Reference to other sections:</b>	See section 8/13.

**7.- HANDLING AND STORAGE****7.1 Precautions for safe handling:**

Handle with care to avoid pricks and cuts. Use gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some people may develop an allergic reaction to certain materials. Keep all warning and identifying labels.

**7.2 Safe storage conditions, including possible incompatibilities:**

Keep away from chemical substances, such as acids, which could cause chemical reactions.

**7.3 Specific end uses:**

Arc welding

**8.- EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters:**

See section 8.2.

**8.2 Exposure controls:**

General Measures: Avoid exposure to welding fumes, radiation, projections, electric shock, hot materials and dust. Ensure sufficient ventilation and aspiration directly above the arc to eliminate fumes and gases from the welding environment. Keep the work area and protective clothing clean and dry. Train welders to avoid contact with electrical wires and isolate conductive parts. Regularly check the condition of the equipment and protective clothing.

Personal protective equipment: Use a mask with ventilation when working or welding in reduced spaces, or where the ventilation is not sufficient to keep the exposure values within the safety limits. Take special care when welding painted or coated materials, as coatings can give off hazardous substances. Use hand, face, eye, ear and body protective elements such as gloves or masks with inactivic filters for the arc, safety boots, aprons, spats and arm and shoulder protectors. Keep protective clothing clean and dry. Use substance measurement equipment to ensure that exposure does not exceed the applicable limits. The following limits are given as a guide. Unless indicated, all values correspond to the weighted average for a period of 8 hours (TWA). For more information on welding fume analysis, see Section 10.

Substance	CAS#	ACGIH TLV <sup>1</sup> mg/m <sup>3</sup>	ES VLA-ED <sup>2</sup> mg/m <sup>3</sup>
Chromium	7440-47-3	0.5	2*
Copper	7440-50-8	1(d&m), 0.2(f)	0.2(f), 1(d&m)
Iron	7439-89-6	5**	5(f)
Manganese	7439-96-5	0.2(f), 0.1***	0.2
Silicon	7440-21-3	-	4**10***

(1) Limit threshold values in accordance with the American Conference of Governmental Industrial Hygienist, 2012.

(2) Spain, Ambient Limit Value-Daily Exposure, (ILO, IFA), 2012.

(3) \*Total powder, \*\*Breathable fraction, \*\*\*Inhalable fraction.(f) fumes, (d) dust, (m) mist, (ceil) ceiling.

**9.- PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties:**

Appearance: Solid, non-volatile with variable tonality.

Melting point: >1000°C / >1800°F

## 10.- STABILITY AND REACTIVITY

**10.1 Reactivity:** Contact with chemical substances, such as strong acids or bases, could generate gas.

**10.2 Chemical stability:** Stable product under normal conditions.

**10.3 Possibility of dangerous reactions:** N.A.

**10.4 Conditions that must be avoided:** This product is only suitable for manual welding procedures.

**10.5 Incompatible materials:** N.A.

**10.6 Hazardous decomposition products:** When this product is used in a welding procedure, the hazardous substances given off include the products resulting from the volatilisation, reaction or oxidation of the materials listed in point 3 and those coming from the base material and its coating. The amount of fumes generated through manual welding varies depending on the welding parameters and the dimensions but does not generally exceed 5 to 10gr/kg of consumable. The fumes from this product contain compounds with the following chemical elements. The rest is not analysed, in accordance with the current legislation.

Fumes analysis:	Fe	Mn	Si	Pb	Cu	Ni	Cr
Weight % less than	65	5	5	5	0.1	1	0.1

Check the national exposure limits for the components of the welding fumes, including exposure limits for components of fumes indicated in section 8. A significant amount of chromium may be hexavalent chromium, which has a very low exposure limit in some countries. Manganese has a low exposure limit in some countries that is easily exceeded. The gases produced include carbon oxide, nitrogen oxide and ozone, amongst others. The contaminants in the air of the welding environment can be the result of the welding process and are affected by the chemical composition and quantity of fumes produced.

## 11.- TOXICOLOGICAL INFORMATION

### 11.1 Information on the toxicological effects:

The inhalation of welding fumes and gases can be dangerous to people's health. Classification of welding fumes is difficult due to the variety of base materials, coatings, procedures and air contamination. The International Agency for Research on Cancer (IARC) has classified welding fumes as possibly carcinogenic for humans. (Group 2B).

Acute toxicity	Overexposure to welding fumes can lead to symptoms such as fever, dizziness, nausea and dryness or irritation of the nostrils, throat and eyes.
Chronic toxicity	Overexposure to welding fumes can affect pulmonary function. Prolonged inhalation of chromium compounds, above the limits of risk-free exposure, can cause cancer. Overexposure to manganese and manganese compounds above the limits of risk-free exposure can cause irreversible damage to the central nervous system, including the brain, with symptoms that may include difficulty speaking, lethargy, trembling, muscle weakness, psychological alterations and spastic gait.

**12.- ECOLOGICAL INFORMATION**

<b>12.1 Toxicity:</b>	No data available
<b>12.2 Persistence and degradability:</b>	No data available
<b>12.3 Potential for bioaccumulation:</b>	No data available
<b>12.4 Mobility in the soil:</b>	No data available
<b>12.5 Results of the PBT and vPvB assessment:</b>	No data available
<b>12.6 Other adverse effects:</b>	No data available

The materials and consumables can decompose either into their original elements or into the by-products resulting from the welding procedure. Avoid situations that could lead to its accumulation in the soil or in groundwater.

**13.- CONSIDERATIONS IN RELATION TO DISPOSAL****13.1 Methods for the treatment of waste:**

Dispose of any product, waste or recipient in a manner that is safe for the environment and following the local laws. Use recycling processes wherever possible.

Waste code: 12 01 13 Welding waste  
16 01 18 Non-ferrous metals

**14.- INFORMATION IN RELATION TO TRANSPORT**

No international regulations or restrictions apply.

**15.- REGULATORY INFORMATION****15.1 Specific regulations and legislation for the product in the area of health, safety and the environment:**

Carefully read and understand the manufacturer's instructions, the safety rules of your company and the health and safety instructions on the label. Adhere to any local legislation. Take precautions for yourself and others during welding.

PRECAUTION: welding gases and fumes can be dangerous to people's health and can damage the lungs and other organs. Use appropriate ventilation.

ELECTRIC SHOCKS can kill. ELECTRIC ARC and SPARKS can damage the eyes and cause burns.

Use protection for your hands, head, eyes and body.

**15.2 Evaluation of chemical safety:**

No.

**Canada:** WHMIS classification: Class D; Division 2, Subdivision A  
Canadian Environmental Protection Act (CEPA): All the components of this product are on the Domestic Substance List (DSL).

**USA:** Under the risk standards of the OSHA, this product is considered hazardous.  
This item contains or produces a chemical substance known in the State of California to cause cancer and birth defects (or other developmental defects). (California Health & Safety Code § 25249.5 et seq.) United States EPA Toxic Substance Control Act: All the components of this product are on the TSCA list or are excluded from the list.

CERCLA/SARA Part III

Quantities to be reported (RQs) and/or quantities considered to be threshold level (TPQs).

Name of component. RQ (lb) TPQ (lb)

The product is a solution in solid state.

Spills or dropping, resulting in the loss of the components at/or above the reportable quantities requires immediate reporting to the Center Response National and its Committee Planning Emergency Local.

Section 311 Risk class

On delivery: Immediate

During use: Delay immediately

EPCRA/SARA Part III 313 Toxic Chemicals

The following metal components are listed in accordance with SARA 313 "Toxic Chemicals" and are an item that is updated in each annual SARA 313. See section 3 for the percentages in weight.

**16.- OTHER INFORMATION**

The information on this Material Safety Data Sheet is based on the technical data held by Chaves Bilbao S.L. and which it believes to be reliable. Given that the conditions of use are out of our control, we take no responsibility in relation to the use made of this information, nor do we guarantee this in any way neither implicitly nor explicitly. For more information, please contact Chaves Bilbao S.L.