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	<b>MATERIAL SAFETY DATA SHEET</b>		
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## 1.- IDENTIFICATION OF PRODUCT AND COMPANY

<b>1.1 Product identification:</b>	<b>ELECTRODE AISi12</b>
<b>1.2 Identified pertinent uses of the substance or mixture and uses that are advised against:</b>	Arc welding  Classification(s): AISI12 (4047)
<b>1.3 Supplier's details:</b>	Chaves Bilbao S.L., C/Bizkargi, 6 Pol. Ind. Sarrikola E-48195 LARRABETZU Bizkaia Tel. +34 94 412 34 56 www.chavesbao.com
<b>1.4 Emergency telephone number:</b>	Toxicology Information Service Telephone: Spain: <b>+34 91 562 04 20</b> (24/7/365) Other: <a href="https://www.europa.eu/national-support-centres">National support - Poison Centres (europa.eu)</a>

## 2.- IDENTIFICATION OF HAZARDS

General Emergency Considerations: This product is not normally considered hazardous when transported, however, prolonged exposure through inhalation of welding fumes could be detrimental to people's health. Gloves should be used during handling to avoid cuts or scratches.

<b>2.1 Product classification:</b>	N.A.
<b>Classification of components:</b>	
Manganese (Mn) CAS: 7439-96-5 EINECS: 231-105-1	 Xn R48 (Danger of severe damage to health due to prolonged exposure)
<b>2.2 Label items:</b>	See section 2.1
<b>2.3 Other hazards:</b>	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. <b>Fumes:</b> 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. 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. Prolonged inhalation of chromium compounds, above the limits of risk-free exposure, can cause cancer. <b>Heat:</b> Projections, molten metal and the arc can cause burns and start fires. <b>Radiation:</b> The arc can cause serious damage to the eyes and skin. <b>Shock:</b> Electric shocks can kill.

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### 3.- COMPOSITION

3.2 Mixtures:	SUBSTANCE	CAS No.	%
	Aluminium (Al)	7429-90-5	Rest
	Copper (Cu)	7440-50-8	< 7
	Chromium (Cr)	7440-47-3	< 1
	Silicon (Si)	7440-21-3	< 13
	Magnesium (Mg)	7439-95-4	< 6
	Manganese (Mn)	7439-96-5	< 1
	Iron (Fe)	7439-89-6	< 1

### 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 doesn'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>	Use CO <sub>2</sub> , powder or pulverised water. In case of major fires, use pulverised water or alcohol-resistant foam.
<b>5.2 Specific hazards arising from the substance or mixture:</b>	N.A.
<b>5.3 Recommendations for fire fighting personnel:</b>	N.A.

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

<b>6.1 Personal precautions, personal protective equipment and emergency procedures:</b>	Provide cleaning teams with the appropriate protective material.
<b>6.2 Precautions in relation to the environment:</b>	See section 13.
<b>6.3 Methods and means of contention and cleaning:</b>	Collect mechanically.

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**6.4 Reference to other sections:** 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. Keep all warning and identifying labels.

**7.2 Safe storage conditions, including possible incompatibilities:** Store in a sheltered, dry place to avoid any contact with humidity. Always keep the container closed when the material is not in use.

**7.3 Specific end uses:** Arc welding

## 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** Nickel has an exposure limit value and must be monitored in the work area. Ni exposure limit: TLV: (inhalable fraction) 1.5mg/m<sup>3</sup> as TWA, A5

**8.2 Exposure controls:** Use protective gloves made of impermeable material that is resistant to the product.

## 9.- PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties:

Appearance: solid, white.  
Melting point: 1500°C

## 10.- STABILITY AND REACTIVITY

**10.1 Reactivity:** N.A.


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

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

**10.4 Conditions that must be avoided:** N.A.

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

**10.6 Hazardous decomposition products:** N.A.

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## 11.- TOXICOLOGICAL INFORMATION

### 11.1 Information on the toxicological effects:

Acute toxicity	N.A.
Chronic toxicity	N.A.

## 12.- ECOLOGICAL INFORMATION

This product does not contain components that are hazardous for the environment. Nonetheless, the disposal of this material in the environment should always be avoided.

## 13.- CONSIDERATIONS IN RELATION TO DISPOSAL

### 13.1 Methods for the treatment of waste:

Users should refer to the national and local regulations. Waste management must be carried out ensuring the correct labelling of the containers for subsequent recycling or treatment under controlled conditions and by an authorised management company.

## 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.

## 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.