1.- IDENTIFICATION OF PRODUCT AND COMPANY

1.1 Product identification: **ELECTRODE E309-L17**

1.2 Identified pertinent uses of the substance or mixture and uses that are advised against: Arc welding

Classification(s):
EN 3581-A E 23 12 L R
AWS A5.4: E309-L17

1.3 Supplier's details:
Chaves Bilbao S.L.,
C/Bizkargi, 6 Pol. Ind. Sarrikola
E-48195 LARRABETZU Bizkaia
Tel. +34 94 412 34 56
www.chavesbao.com

1.4 Emergency telephone number:
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. The hazards arise during welding.

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

3.2 Mixtures:
Composition of coating

SUBSTANCE	CAS No.	%
Rutile	1317-80-2	5-25
Iron (Fe)	7439-89-6	0-10
Chromium (Cr)	7440-47-3	4-20
Nickel (Ni), R40/R43, H-Xn	7440-02-0	1-15

4.- FIRST AID

4.1 Description of first aid

The welding area must always be equipped with a fire blanket and a first aid kit. Ideally there should be an employee trained in providing first aid in order to treat any minor injury. Injuries that may appear to be minor can become more serious if not properly treated by trained medical staff.

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 away from conductive parts or cables. 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

5.1 Extinguishing means: There are no specific recommendations for welding consumables. The welding arc and its sparks can set fire to fuel and flammable materials. Use of the recommended extinguishing means for flammable materials and fire situations such as buckets with sand or a dry chemical extinguisher.

5.2 Specific hazards arising from the substance or mixture: N.A.

5.3 Recommendations for fire fighting personnel: N.A.

6.- MEASURES IN THE EVENT OF ACCIDENTAL SPILLAGE

6.1 Personal precautions, personal protective equipment and emergency procedures: See section 8.

6.2 Precautions in relation to the environment: See section 13.

6.3 Methods and means of contention and cleaning: 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.

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. 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:

Does not require special storage conditions. Follow the specified procedures.

7.3 Specific end uses:

Arc welding

8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 General controls:

Whenever possible, welding must be carried out in an isolated area away from the other work areas. If it is absolutely impossible to have an isolated area, the protection of other workers must be guaranteed by a portable partition or shield, or through the use of safety goggles.
Disposable plastic lighters are very dangerous close to sources or heat or flames: it is very important that welding operators do not have these in their pockets.
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.

8.2 Personal protection

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 heat, ultraviolet ray and spark-resistant gloves and masks with inactinic filters for the arc; safety goggles or a transparent mask for people who require glasses.

9.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance: Solid.
Colour: dark red.
Form: coated electrode.

10.- STABILITY AND REACTIVITY

10.1 Reactivity: Does not react dangerously with other substances under normal conditions.

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. See the national exposure limits for the components of welding fumes. A significant amount of chromium in the fumes may be hexavalent chromium, which has a low exposure rate in some countries. 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

The materials and consumables can decompose either into their original elements or into the by-products resulting from the welding procedure. Welding gases go directly into the atmosphere.

13.- CONSIDERATIONS IN RELATION TO DISPOSAL

13.1 Methods for the treatment of waste:

Dispose of the product and its packaging according to the applicable national or regional regulations. The product can be disposed of through any of the traditional methods: recycling, landfill, etc.

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.