

## 1. IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

Product name: MUREX Fluxobronze Super  
 Application: Oxy/Acetylene brazing and welding applications.  
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## 2. HAZARDS IDENTIFICATION

This product contains substances that are considered to be toxic and may impair fertility and may cause harm to the unborn child.

Skin, respiratory disorders and pancreas and liver disorders may be aggravated by prolonged over-exposure to the dusts or fumes generated by these products.

Eyes: Fumes generated during brazing operations can be irritating to the eyes.

Skin: Prolonged or repeated skin overexposures may lead to allergic contact dermatitis.

Inhalation: Inhalation of copper oxide and zinc oxide fumes can cause metal fume fever. Initial symptoms of metal fume fever can include a metallic or sweet taste in the mouth, dryness or irritation of the throat, and coughing. Further symptoms include sweating, shivering, headache, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, and tiredness.

Repeated over-exposure, via inhalation, to the dusts or fumes generated by this product during brazing operations may have adverse effects on the lungs with possible pulmonary edema and emphysema.

Chronic overexposure to copper dust may cause tiredness, stuffiness, diarrhoea, and vomiting.

Acute Health Hazards: Inhalation of large amounts of particulates generated by this product during metal processing operations may result in irritation.

Inhalation of large amounts of particulates generated by this product during metal processing operations can result in pneumoconiosis.

Severe over-exposure to copper (a component of this product) via ingestion may be fatal.

Cronic Health Hazards: Chronic skin over-exposure to the fumes of this product during brazing operations may produce dermatitis. Chronic over-exposure to copper dust may cause tiredness, stuffiness, diarrhoea, vomiting, kidney and liver disorder and discolouration of the skin and eyes.  
 Additionally, rare cases of allergic contact dermatitis have been reported in people working with copper dust.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product consists of flux coated solid bronze rods.

Ingredients	Weight %	CAS#	EINECS#	Hazard classification <sup>(1)</sup>
Copper	56-62	7440-50-8	231-159-6	No
Silicon	0.50	7440-21-3	231-130-8	No
Tin	0.3-1.5	7440-31-5	231-141-8	No
Boric acid	2-6	10043-35-3	233-139-2	No
Disodium tetraborate	<3	1330-43-4	215-540-4	No
Zinc	Balance	7440-66-6	231-175-3	No

<sup>(1)</sup> Hazard Classification according to European Council Directive 67/548/EEC, for R-phrases see heading 16.

## 4. FIRST AID MEASURES

Inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
 In case of unconsciousness place patient stably in side position for transportation.

Eye contact: If fumes enter the eyes, open the affected eye and rinse for a minimum of fifteen minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Then consult a doctor.

Skin contact: Immediately remove all contaminated clothing. Begin decontamination with running water. If molten material contaminates the skin, immediately run under cold water for a minimum of fifteen minutes. Seek medical attention if any adverse reaction occurs.

Electric shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). Immediately call a physician.

General: Move to fresh air and call for medical aid.

**5. FIREFIGHTING MEASURES**

No specific recommendations for welding consumables. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning materials and fire situation. Wear self-contained breathing apparatus as fumes or vapors may be harmful.

**6. ACCIDENTAL RELEASE MEASURES**

Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Avoid release to the environment. Wear proper protective equipment while handling these materials. Do not discard as refuse.

Personal precautions: refer to section 8

Environmental precautions: refer to section 13

**7. HANDLING AND STORAGE**

Handling:

Avoid breathing fumes of this product during brazing/welding operations.

Avoid exposure to radiation, spatter, electric shock, heated materials and dust. Do not ingest. Do not eat, drink or smoke when using this product.

Handle with care to avoid stings and cuts. Wear gloves when handling brazing/welding consumables. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.

Storage:

Store in a cool dry place.

Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering measures:

Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Keep working place and protective clothing clean and dry. Do not eat or drink while handling this product. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing.

Train welders to avoid contact with live electrical parts and insulate conductive parts. Check condition of protective clothing and equipment on a regular basis.

Personal protective equipment:

Use respirator or air supplied respirator when welding or brazing in a confined space,

or where local exhaust or ventilation is not sufficient. Use special care when welding painted or coated steels since hazardous substances from the coating may be emitted. Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry.

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits. The following limits can be used as guidance for dust.

Substance	CAS#	ACGIH TLV <sup>(1)</sup> mg/m <sup>3</sup>	UK TWA <sup>(2)</sup> mg/m <sup>3</sup>
Copper	7440-50-8	1(dust & mist) 0.2 (fume)	0.6
Silicon	7440-21-3	-	7
Tin	7440-31-5	2	2
Boric acid	10043-35-3	-	-
Disodium tetraborate	1330-43-4	2	-
Zinc	7440-66-6	-	-

<sup>(1)</sup> Threshold Limit Values according to American Conference of Governmental Hygienists, 2010

<sup>(2)</sup> United Kingdom, Time Weighted Average (8h) according to EH40/2005, 2010

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: White flux-coated bronze rods, odourless

pH: 7

Melting point: 1600°C - 1900°C

**10. STABILITY AND REACTIVITY**

General: This product is only intended for normal brazing/welding purposes.

Stability: This product is stable under normal conditions.

Reactivity: Contact with chemical substances like acids or strong bases could cause generation of gas.

When this product is used in a brazing/welding process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in section 3 and those from the base metal and coating.

Refer to applicable national exposure limits for fume compounds.

Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area, can be effected by the brazing/welding process and influence the composition and quantity of fumes and gases produced.

## 11. TOXICOLOGICAL INFORMATION

Inhalation of welding/brazing fumes and gases can be dangerous to your health. Classification of welding fumes is difficult because of varying base materials, coatings, air contamination and processes. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (Group 2B).

This product contains substances that are considered to be toxic and may impair fertility and may cause harm to the unborn child.

**Acute toxicity:** Inhalation of copper oxide and zinc oxide fumes can cause metal fume fever. Inhalation of large amounts of particulates generated by this product during metal processing operations can result in pneumoconiosis. Severe over-exposure to copper (a component of this product) via ingestion may be fatal.

**Chronic toxicity:** Chronic skin over-exposure to the fumes of this product during brazing/welding operations may produce dermatitis. Chronic over-exposure to copper dust may cause tiredness, stuffiness, diarrhoea, vomiting, kidney and liver disorder and discolouration of the skin and eyes. Additionally, rare cases of allergic contact dermatitis have been reported in people working with copper dust.

## 12. ECOLOGICAL INFORMATION

Brazing/welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

## 13. DISPOSAL CONSIDERATIONS

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available.

Residues from welding consumables and processes could degrade and accumulate in soils and groundwater.

## 14. TRANSPORT INFORMATION

No international regulations or restrictions are applicable.

## 15. REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when brazing/welding and protect yourself and others.

**WARNING:** Brazing/welding fumes and gases are hazardous to your health and may damage lungs and other organs.

**ELECTRIC SHOCK** can kill.

**ARC RAYS** and **SPARKS** can injure eyes and burn skin.

Wear correct hand, head, eye and body protection.

**FIRST AID** - If exposed to excess brazing/welding fumes, move to fresh air, wash eyes or skin with water to remove dust. In case of arc rays, or electric shock, employ normal first aid techniques and call a physician immediately.

## 16. OTHER INFORMATION

Refer to ESAB "Welding and Cutting - Risks and Measures", F52-529 "Precautions and Safe Practices for Electric Welding and Cutting" and F2035 "Precautions and Safe Practices for Gas Welding, Cutting and Heating" available from ESAB, and to:

UK: WMA Publication 236 and 237, "Hazards from Welding fume", "The arc welder at work, some general aspects of health and safety".

ESAB request the users of this product to study this Safety Data Sheet (SDS) and become aware of product hazards and safety information. To promote safe use of this product a user should:

- notify its employees, agents and contractors of the information on this SDS and any product hazards/safety information.
- furnish this same information to each of its customers for the product.
- request such customers to notify employees and customers for the same product hazards and safety information.

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