



MATERIAL SAFETY DATA SHEET

Regulation (CE) n. 1907/2006 (REACH) e n. 1272/2008 (CLP) e s.m.i.

Commercial Name: **NOVOFIL SG2** | **NOVOFIL SG3**

Copper Coated, Bronze Coated, Copper free Coated

Section 1. IDENTIFICATION OF THE PRODUCT/SUBSTANCE AND MANUFACTURER/DEALER

A Category Solid welding wire for gas-shielded arc welding (MIG, WIG)

B Name of product **NOVOFIL SG2 - NOVOFIL SG3** – coppered, bronzed, copper free

Normative: **AWS/SFA 5.18: ER 70S-6 EN ISO 14341 (2011) G42 4M21 3Si1 / G46 4M21 4Si1**

C Manufacturer and dealer

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Section 2. COMPOSITION/INFORMATION ABOUT INGREDIENTS

Low-alloy welding wire ($\leq 5\%$ Cr; $\leq 1\%$ Ni; $\leq 1\%$ Co). No substances classifiable as toxic and/or noxious.

Substances	Weight %	CAS#	EINESC#	Submission Nr.
Iron	>95	7439-89-6	231-096-4	MR311277-23
Manganese	1.00-1.50	7439-96-5	231-105-1	GX355027-14
Silicon	0.65-0.85	7440-21-3	231-130-8	GZ355034-15
Copper	≤ 0.30	7440-50-8	231-159-6	LH410679-32
Carbon	≤ 0.1	7440-44-0	231-153-3	UB355009-42
Phosphorus	≤ 0.025	7723-14-0	231-768-7	CW410655-21
Sulfur	≤ 0.025	7704-34-9	231-722-6	FH410671-54
Chromium	≤ 0.15	7440-47-3	231-157-5	HB410693-58
Nickel	≤ 0.15	7440-02-0	231-111-4	GQ410685-26
Vanadium	≤ 0.03	7440-62-2	231-171-1	MS410718-15
Molibdenum	≤ 0.15	7439-98-7	231-107-2	VE410704-43
Aluminium	≤ 0.02	7429-90-5	231-072-3	AD428683-52



Section 3. IDENTIFICATION OF DANGERS

The product is harmless as it is. Dangers when used:

- A. UV and infrared radiation, heat and noise generated by the electric arc
- B. Fumes/Welding gases
- C. Electric shocks (welding systems)

Section 4. FIRST-AID MEASURES (DURING USE)

Inhalation:	If breathing has stopped, perform artificial respiration and obtain medical assistance immediately! If breathing is difficult, provide fresh air and call physician.
Eye contact:	For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.
Skin contact:	For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist. To remove dust or particles wash with mild soap and water.
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.

Section 5. FIRE PREVENTION MEASURES

No specific direction.

When using the product, keep flammable materials away from the work area.

Use the extinguishing media recommended for the burning materials and fire situation.

Wear self-contained breathing apparatus as fumes or vapours may be harmful.

Section 6. MEASURES IN CASE OF ACCIDENTAL LEAKAGE

Not applicable.



Section 7. HANDLING AND STORAGE

HANDLING: High-density solid product; avoid storing in unstable positions; handle with care; protect your hands and feet.

Gloves should be worn when handling to prevent cuts and abrasions.

Skin contact is normally no hazard but should be avoided to prevent possible allergic reactions.

Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device. When this product is used in a welding process, the most important hazards are heat, radiation, electric shock and welding fumes.

Some individuals can develop an allergic reaction to certain materials, in that case please consult immediately a doctor. Retain all warning and identity labels. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

STORAGE:

Store in dry protected location to prevent any moisture contact. Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

Section 8. EXPOSURE CONTROL / INDIVIDUAL PROTECTION (DURING USE)

Fumes and welding gases are developed when using the product; operate in a sufficiently ventilated place and/or install fumes extractors on the welding area.

Name CAS no. TLV mg/m³

Mn oxides 7439-96-5 0,2

Si oxides (as Si fumes) 69012-64-2 2

Fe oxides 1309-37-1 5

Welding fumes - fine powders (NOC) 5

ozone 10028-15-6 0,2

breatheable particles (PNOC) 3

Protective measures:

Respiratory tract Avoid inhaling fumes/gases; be sure there is enough ventilation and/or fumes extractors are available ears Use ear protectors and/or ear plugs, Hands

Use welding gauntlets

Eyes Use helmets with suitable shielding glass, Skin Cover exposed areas with appropriate clothing Heat: Spatter and melting metal can cause burn injuries and start fires.

Radiation: Arc rays can severely damage eyes or skin.

Electricity: Electric shock can kill.

Fumes: Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to welding fumes may affect pulmonary function.



Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

- A. State solid
- B. Smell smell-less
- C. Melting point $\cong 1600^{\circ}\text{C}$
- D. Boiling point n. a.
- E. Flash point n. a.
- F. Explosive properties none
- G. Specific weight $5 \div 8 \text{ g/cm}^3$
- H. Solubility in strong acids
- A. Stability stable
- B. Reactivity strong acids and bases

Section 10. STABILITY AND REACTIVITY

This product is only intended for normal 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 welding process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in section 2 and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions, but is generally no more than 5 to 10g/kg consumable. Fumes from this product contain compounds of the following chemical elements. The rest is not analyzed, according to available standards.

Fume analysis:	Fe	Mn	Cr	Pb	Cu	Ni
weight % less than	65	15	0.1	0.2	0.5	0.1

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



Section 11. TOXICOLOGICAL INFORMATION

The product is not toxic as it is; when in use, refer to items 3 and 8.

Prolonged operation causes chronic effects to eyes, ears and respiratory tract.

Inhalation of welding 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).

Acute toxicity: Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.

Chronic toxicity: Overexposure to welding fumes may affect pulmonary function. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait.

Section 12. ECOLOGICAL INFORMATION

Ferrous product; do not dispose of it in the environment (metal scrap). When used in combination with fumes extractors, treat the ensuing powders according to the provisions in force.

Section 13. CONSIDERATIONS ON DISPOSAL

A. Product: ferrous scrap, disposable as such, raw material suitable for melting.

B. Cardboard and/or plastic packing: to be recycled according to the provisions in force.

Section 14. INFORMATION ON TRANSPORTATION

High-density product, not dangerous according to the transport provisions in force.



Section 15. INFORMATION ON REGULATIONS

- A. CE Classifications n. a.
- B. Risk symbol n. a.
- C. Risk phrases n. a.

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 welding and protect yourself and others. **WARNING:** Welding fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation. **ELECTRIC SHOCK** can kill. **ARC RAYS** and **SPARKS** can injure eyes and burn skin.

Wear correct hand, head, eye and body protection.

IN CASE OF ANY DOUBT PLEASE CONTACT THE MANUFACTURER, NOVOFIL SRL AT THE A.M. ADDRESS.

Section 16. FURTHER INFORMATION

Novofil SpA. requires that all customers read this product card carefully so as to be informed about the risks implied in the use of the product, and provide any person involved with a copy of the same and/or adequate training on the use of the product. This card has been drawn up in consideration of the directions contained in the information cards on welding fumes, published by the International Institute of Welding (IIW) and available in the Italian language at the Italian Institute of Welding, Genoa. Possible national and local provisions are enforceable. The values which are shown in this document refer to security, so they are not warranted for product's technical characteristics. They are based on the best present knowledge.

*BEST REGARDS,
NOVOFIL S.p.A*