

## EEC-SAFETY DATA SHEET acc.to EC 1907/2006

### 1. Product and Company Identification

- 1.0 **Substance Name** : Record CuNiW  
1.1 **Supplier** : Soudokay s.a.

### 2. Hazards Identification

#### 2.0 WARNING :

\* **Threshold Limit Value** : The ACGIH 1984-85 recommended limit for welding fume not otherwise classified, is 5 mg/m<sup>3</sup>. TLV-TWA's should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations. See Section III for specific fume constituents which may modify this TLV-TWA.

\* **Effects of overexposure** : Electric arc welding or oxyfuel gas process may create one or more of the following hazards:

\* **Fumes and Gases** can be dangerous to your health. Primary route of entry is by inhalation. Pre-existing medical conditions-individuals with impaired respiratory function may have symptoms worsened by exposure to welding fumes. Short term (acute) overexposure to welding fumes may result in the following signs and symptoms: discomfort such as dizziness, nausea, or dryness or irritation of the nose, throat, or eyes. Chromate's present in the fume can cause irritation of nasal membranes and skin.

Nickel compounds present in the fumes can cause metallic taste, nausea, tightness in chest, fever, and allergic reactions. Long term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and affect pulmonary function. Hexavalent chromium compounds are considered as carcinogenic. This is based on studies in non-welding operations where an increased incidence of respiratory cancer was noted. Nickel compounds are considered to be carcinogenic. This is based **on studies in non-welding** operations that indicated a higher incidence of lung and nasal cancers. Long term overexposure may also cause pulmonary fibrosis and edema.

\* **Carcinogenic assessment** : This product contains or produces a chemical known to the State of California to cause cancer. (California Health and Safety Code § 25249.5) Manganese oxides as well as fine grained dust (in most cases of iron oxide) can arise. Carcinogenic components like CrVI and / or Nickel oxide can arise.

Nickel and Chromium must be considered possible carcinogens under OSHA (29CFR1910.1200). IARC has indicated Nickel, Chromium, and certain of their compounds are probably carcinogenic for humans, but the compounds cannot be specified precisely. These conclusions were drawn from operations different from welding. Regardless, exposure level must be kept below those levels specified in Section 3.

The National Toxicology Program indicates there is sufficient evidence for the carcinogenicity or respirable crystalline silica in experimental animals. Increases in incidence of lung cancers have been found in inhalation studies in rats. An IARC working group reported there is limited evidence for the carcinogenicity of crystalline silica in humans.

\* **Arc rays** can injure eyes and burn skin, **HEAT RAYS** (infrared radiation from flame or hot metal) can injure eyes.

\* **Electric shock** can kill.

\* **Noise** can cause damage hearing.

\* Welding arc or torch flame may be a **source of ignition** of combustible.

\* **Emergency first aids procedures** : call for medical aid. Employ first aid techniques recommended by the American Red Cross. **IF BREATHING IS DIFFICULT**, give oxygen. Call a physician. **In case of electrical shock** disconnect and turn off power. **IF NOT BREATHING**, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin external heart massage. Immediately call a physician. **IN CASE OF ARC BURN** call a physician.

### 3. Composition/information on ingredients

Description : Flux cored wire with more than 5% Cr and/or more than 5% Ni.

#### 1. Flux or coating elementary composition

##### A. Mineral Constituents

##### C. Alloying Elements

Material	CAS #	EINECS #	% weight	TLV (1) mg/m <sup>3</sup>	Material	CAS #	EINECS #	% weight	TLV (1) mg/m <sup>3</sup>
SiO <sub>2</sub>	(14808-60-7)	238-878-4	20	10	Fe	(7439-89-6)	231-096-4	0	5
TiO <sub>2</sub>	(13463-67-7)	236-675-5	0	10	Cr	(7440-47-3)	231-157-5	0	0.5
Al <sub>2</sub> O <sub>3</sub>	(1344-28-1)	215-691-6	35	10	Ni	(7440-02-0)	231-111-4	0	1
Fe <sub>2</sub> O <sub>3</sub>	(1309-37-1)	215-168-2	0	5*	Mo	(7439-98-7)	231-107-2	0	10
MnO	(1317-35-7)	215-266-5	1	0.2	Nb	(7440-03-1)	231-113-5	0	/
CaO	(1305-78-8)	215-138-9	30	2	V	(7440-62-2)	231-171-1	0	0.05**
MgO	(1309-48-4)	215-171-9	0	10	W	(7440-33-7)	231-143-9	0	5
K <sub>2</sub> O+Na <sub>2</sub> O	(-)	-	5	2	C	(1333-86-4)	215-609-9	0	3.5
F-	(-)	-	10	2.5	Cu	(7440-50-8)	231-159-6	0	1
BaO	(1304-28-5)	215-127-9	0	0.5***	Co	(7440-48-4)	231-158-0	0	0.02
					Mn	(7439-96-5)	231-105-1	0	0.2
					Si	(7440-21-3)	231-130-8	0	10
<b>B. Organic Constituents.</b>									
Cellulose and derivatives									
	(9004-34-6)	232-34-6	0	10					

#### 2. Wire and strip composition ( including outer strip for flux-cored wire and manual electrode core-wire).

Material	CAS #	EINECS #	% weight	TLV (1) mg/m <sup>3</sup>	Material	CAS #	EINECS #	% weight	TLV (1) mg/m <sup>3</sup>
Fe	(7439-89-6)	231-096-4	0	5	W	(7440-33-7)	231-143-9	0	5
Cr	(7440-47-3)	231-157-5	0	0.5	C	(1333-86-4)	215-609-9	0	3.5
Ni	(7440-02-0)	231-111-4	0	1	Cu	(7440-50-8)	231-159-6	0	1
Mo	(7439-98-7)	231-107-2	0	10	Co	(7440-48-4)	231-158-0	0	0.02
Nb	(7440-03-1)	231-113-5	0	/	Si	(7440-21-3)	231-130-8	0	10
V	(7440-62-2)	231-171-1	0	0.05**	Mn	(7439-96-5)	231-105-1	0	0.2

(1) ACGIH threshold limit values ( TLV-TWA, 8h. working day). The Section 2 covers the materials from which this product is manufactured.

The fume and gases produced during welding with normal use of this product are covered by section 11.

(\*) as Fe - (\*\*) as V<sub>2</sub>O<sub>5</sub> - (\*\*\*) as Ba .

Note that during electroslag arc welding and submerged arc welding, only extremely low fume emission is observed, which practically do not have noticeable detrimental effect.

### 4. First-Aid Measures

**4.0 After breathing :** Breathe fresh air. In case of inhalation of bigger fume quantities see a doctor.

**4.1 After contact with skin :** Contaminated part to be washed with soap carefully.

**4.2 After contact with eyes :** Rinse the eye with fresh water if necessary contact your doctor.

**4.3 After swallowing :** not applicable.

**4.4 Hints for the doctor :** Routine examination acc. to national standards.

### 5. Fire-Fighting Measures

**5.0 Steps in case of fire :** not applicable as the products are neither inflammable nor explosive.

**5.1 Extinguisher :** not applicable, in case of fire caused by welding all kinds of sufficient extinguisher can be used.

## 6. Accidental Release Measures

*Not applicable.*

## 7. Handling and storage

**7.0 Handling** : Information for safe handling : The national safety rules are strictly to be adhered to.

**7.1 Storage** : Requirements for storage : There are no special requirements for storage in regard to safety rules.

## 8. Exposure controls and Personal protection

### 8.0 Welding fumes composition :

Designation of substances	CAS-No.	Limit
Fluorides		2.5 mg/m <sup>3</sup>
Manganese oxide	1317-35-7	0.2 mg/m <sup>3</sup>
Iron oxide	1309-37-1	5 mg/m <sup>3</sup>
CrVI oxide	13765-19-0	0.005 mg/m <sup>3</sup>
Nickel oxide	1313-99-1	0.1 mg/m <sup>3</sup>

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, "Safety In Welding and Cutting" published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida, 33126 and OSHA Publication 2206(29cfr1910), U.S. Government Printing Office, Washington, D.C. 20402 for more details on many of the following:

#### \* **Ventilation**

Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

#### \* **Respiratory Protection**

Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local-exhaust or ventilation does not keep exposure below TLV.

#### \* **Eye Protection**

Wear helmet or use face shield with filter lens shade number 14 or darker. Shield others by providing screens and flash goggles.

#### \* **Protective Clothing**

Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin or clothing or gloves if they are wet. Insulate from work and ground.

## 9. Physical and chemical properties

<b>Boiling point:</b>	N/A
<b>Vapour Pressure (mm Hg) :</b>	N/A
<b>Vapour Density (air=1):</b>	N/A
<b>Solubility in water:</b>	Insoluble
<b>Appearance and Odour:</b>	Looks like an agglomerated flux
<b>Specific Gravity (H2O=1):</b>	N/A
<b>Melting Point:</b>	N/A
<b>Evaporation Rate (Butyl Acetate=1):</b>	N/A

## 10. Stability and reactivity

**10.0 Stability :** stable

**10.1 Reactivity :** no dangerous known reactions

**10.2 Hazardous decomposition or by-products:**

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependant upon the metal being welded, and the process, procedures and fluxes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, galvanizing, or phosphate coatings on steels which would produce phosphine gas), the number of welders and the volume of the work area, the quality and the amount of ventilation, the position of the welder's head with respect to the fume plume as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities which may be decomposed by the arc into toxic gases such as phosgene).

When the flux and strip are consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in SECTION III. Fume and gas decomposition products, and not the ingredients in the flux are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration in the flux. Also, new compounds not in the flux may form. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in SECTION III, plus those from the base metal and coating, etc..., as noted above.

Reasonably expected fume constituents of this product would include:

primarily oxides of Iron; secondarily complex oxides of Manganese, Silicon, Titanium and Sodium;  
primarily fluorides and complex oxides of Iron and Silicon, secondarily complex oxides of Manganese, titanium, chromium, nickel, sodium and potassium.

Reasonably expected gas constituents of this product would include:

Carbon monoxide and Carbon dioxide; Ozone and nitrogen oxides may be formed by the radiation from the arc.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the welder's helmet if worn or in the worker's breathing zone.

## 11. Toxicological information

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## 12. Ecological Information

**12.0 Information about elimination :** For operation of fume exhausters also refer to the maximum levels as indicated in national standards.

## 13. Disposal considerations

**13.0 Recommendation :** Metalscrap as usual. However dust and particles separated in a fume exhaust filter system have to be treated as specialwaste.

**13.1 Used packing material :** Disposal via recycling as not contaminated.

## 14. Transport Information

**14.0 The product is not harmful in view of transport regulation.**

## 15. Regulatory Information

**15.0 Designation according to EU guidelines :** not applicable.

**15.1 Risk phrases :** not applicable.

**15.2 Safety phrases :** not applicable.

**15.3 Emission limit for exhausted air :** 5 mg/m<sup>3</sup>

## 16. Other Information

**16.0 Product description/Usage :** *National standards and safety rules a valid, whenever applicable. The information contained in this Safety Data Sheet is intended to assist in use of the above product without risk to safety or health and based on current knowledge and experience. The data does not signify any warranty with regard to the product's properties.*

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