Wuhan Sunny Industry & Trade Co.,Ltd

Material Safety Data Sheet

For welding consumables and related products
Essentially similar to U.S Department of labor form OSHA-20

Section I - Identification

Manufacturer/Supplier name:	Wuhan Sunny Industry & Trade Co.,Ltd
Address:	1282 jiefang avenue,Wuhan,China Post code:430010
Telephone number:	86-27-82726189
Product type:	Stainless Steel Wire for GMAW, GTAW, SAW
Trade name:	HBW308L(Si),HBW309L(Si),HBW310,HBW312,HBW316L(Si)
AWS classification:	AWS ER308L(Si),ER309L(Si),ER310,ER312,ER316L(Si)

Section II - Hazardous components/Identity information

Components	CAS No.	TLV(mg/m3)
Iron	7439-89-6	5.0(as Fe2O3)
Chromium	7440-47-3	0.05
Nickel	7440-02-0	1.5(as metal)
Manganese	7439-96-5	0.5(as Mn)
Cobalt	7440-48-4	0.02 (dust and fume)
Molybdenum	7439-98-7	10(dust and fume)

Normal composition(Weight %)

	Fe	Cr	Ni	Mn	Cu	Co	Mo	Nb	Si
308L	Bal	19.5	9.5	1.8	-	<.10	-	-	0.40
308LSi	Bal	19.5	9.5	2.0	-	<.10	-	-	0.85
309L	Bal	23.0	13.5	1.8	-	<.10	-	-	0.40
309LSi	Bal	23.0	13.5	2.0	-	<.10	-	-	0.85
310	Bal	27.0	21.0	1.8	-	<.10	-	-	0.40
312	Bal	30.0	9.0	1.8	-	<.10	-	-	0.40
316L	Bal	19.0	12.0	1.8	-	<.10	2.3	-	0.45
316LSi	Bal	19.0	12.0	1.8	-	<.10	2.3	-	0.85

Section III - Physical/Chemical characteristics

Boiling point	N/A	Specific gravity(H2O=1)	N/A
Vapor pressure(mm Hg)	N/A	Melting point	N/A
Vapor density(AIR=1)	N/A	Evaporation rate(Butyl acetate=1)	N/A

Solubility in water N/A

Odor and Appearance: solid stainless steel wire or rod, odorless.

Section IV - Fire and explosion hazard data

Flash point (method used) N/A	Flammable limits N/A	LEL N/A	UEL N/A

Extinguishing media See below

Special fire fighting procedures See below

Nonflammable, however welding arcs and sparks can ignite combustible and flammable products. Ref. Z49.1, NFPA 51B. Only the packaging material will burn.

Section V - Reactivity data

Stability	Unstable	No	Conditions to avoid
Stable	Stable	Yes	None unless otherwise specified

Incompatibility (Metals to avoid) None

Hazardous decomposition products

Welding fumes and gases cannot be classified easily. The composition and quantity of welding fumes and gases are dependent upon the metal being welded, the process procedure, and the electrodes used. Other conditions that also influence the composition and quantity of fumes and gases to which a welder may exposed include: Coatings off the metal being welded (such as paint, galvanizing, and plating), the number of welders and work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). When the electrode is consumed, the fume and gas decomposition products generate are different in percent and form from the original ingredients listed in SECTION II. Fume and gas decomposition products, and not the ingredients in the electrode, are important. The concentration of a given fume or gas component may increase or decrease by times the original concentration of the electrode. Also, new compounds not found in the electrode may form. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of materials listed in SECTION II, plus those from the base metal and coating, etc., as noted above.

Reasonably Expected Decomposition Products: Decomposition products derived from the normal use of these products include a complex of the oxides of the materials listed in Section II, as well as carbon dioxide and carbon monoxide. Ozone and Nitrogen oxides may be formed by the radiation from the arc.

The fume limit for Chromium, Nickel and/or Manganese may be reached before the general limit for welding fumes of 5.0 mg/m3 is reached. Monitor fumes for Chromium, Nickel and Manganese.

Notes: (1) The only way to determine the true identity of decomposition products is by sampling and analysis. The composition and quantities of the fumes and gases to which a worker may be overexposed can be determined from a sample obtained from inside the welder's helmet, if worn, or in the worker's breathing zone. (2) See ANSI/AWS F1.5, "Methods for Sampling and

Analyzing Gases from Welding and Allied Processes" and ANSI/AWS F1.1, "Method for Sampling Air borne Particles Generated by Welding or Allied Processes" available from the American Welding Society.

Section VI - Health hazard dada

Route(s) of entry: inhalation,skin,ingestion

Electric arc welding may create one of more of the following health hazards:

Arc Rays can injure eyes and burn skin Heat Rays (infrared radiation) from hot metal can injure eyes.

Electric Shock can Kill.

Noise can injure hearing.

Shielding gases such as Argon, Helium, & Carbon Dioxide are axphyxiants & adequate ventilation is required.

Carcinogenicity: Chromium, Nickel, Cobalt and their compounds are on the IARC & NPT lists as posing a carcinogenetic risk to humans.

Fumes & Gases can be dangerous to your health. Common entry is by inhalation.

Signs and symptoms of exposure: see below

Medical conditions from exposure

Short term to welding fumes-dizziness nausea,dryness & irritation of nose,eyes and throat,chest tightness,fever,allergic reaction,long term-siderosis,believed to affect pulmonary function. Nickel and Chromium compounds are required by Osha to be considered carcinogenic.

Emergency and first aid procedures

Remove to fresh air,obtain medical attention. Employ first aid techniques recommended by AM.Red Cross.

Section VII - Precautions for safe handling and use

Spill and leak procedure: N/A

Waste and disposal method

Prevent waste from contaminating surrounding environment. Discard any product residue,disposable container or liner in environmentally acceptable manner. In full compliance with federal,state and local regulations.

Precautions to be taken in handling and storing: None

Other precautions

Use product in accordance with ANSI standard Z49.1,safety in welding and cutting available from AWS,550 NW. Lejnue Rd,POX 351040,Miami,FL33135 Phone 305-443-9353

Section VIII - Control measures

Respiratory measures

Use respirable fume respirator or air supplier respirator when welding in a confined space or where local exhaust or ventilation does not keep the exposure below TLV. Where respiratory protection is necessary, NIOSH approved respiratory protection should be used. A NIOSH approved Type TC-21-C mask is recommended.

Ventilation

Use enough ventilation, local exhaust at the arc, or both to keep exposure within legal limits. In the worker's breathing zone and the general area, the fumes and gases must be kept the TLVs and the equivalent exposure must compute to less than one. Train welders to keep their heads out of the fumes.

Local exhaust	---
Mechanical(general)	---
Special	---
Other	---

Protective gloves: See other protective equipment

Eye protection

Wear helmet,face shield with filter lens,protective screens,flash goggles to shield others,start with shade too dark then go to lighter shade which gives sufficient view of weld zone.

Other protective equipment

Hand,head,body protection to prevent injury from radiation,sparks and electrical shock.

Work/Hygienic practices

Do not touch live electrical parts and insulate from work and ground. For maximum safety:
Be certified for, and wear a respirator at all times when welding or brazing.