HSM Wire International, Inc
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MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

DATE: 6/08/94 REVISED 4/5/11
Manufacturer/Supplier Name: **HSM Wire International**
Address: P.O. Box 9181 Canton Ohio 44711 330-244-8501
This MSDS covers solid metal shaped wire as listed in Section 2-A

SECTION 2 - *HAZARDOUS*INGREDIENTS

IMPORTANT: This section covers the elements contained in the product as shipped. As the condition or methods of use are beyond our control, this product in the as shipped condition is not harmful for the standard application for the product intended to be use. Fumes and gases produced during welding and health hazards are covered by section 5.

INGREDIENT	PEL (1)	TLV (2)	INGREDIENT	PEL (1)	TLV (2)
Aluminum (Al)	None	10.0	Nickel (Ni)	1.0	1.0
Carbon (C)	5.0	None	Silicon (Si)	None	10.0
Chromium (Cr)*	1.0	.50	Tantalum (Ta)	None	5/10
Cobalt (Co)*	.10	1.0	Tin (Sn)	2.0	2.0
Columbium (Cb)	None	None	Titanium (Ti)	15.0	10.0
Copper (Cu)	.10/1.0	.20/1.0	Tungsten (W)	None	5.0
Iron (Fe)	10.0	5.0	Vanadium (V)	1.0/.50	.05
Lead (Pb)	0.15	0.05	Molybdenum (Mo)	15.0	10.0
Manganese(Mn)	5.0	5.0/1.0	Zinc Oxide (Zn)	5.0	5.0
Molybdenum(Mo)	15.0	10.0	Zirconium	5.0	5.0

SECTION 2A -TRADENAME AND NOMINAL CHEMICAL COMPOSITION
*CARCINOGENIC (Look at Section 5 for information about this)

PRODUCT NAME	**Al**	**Cr***	**Cb**	**Fe**	**Mn**	**Ni***	**Ti**
ALLOY X750	1.0	16.0	1.0	7.0	1.0	73.0	3.0

**Nickel contains trace amounts of cobalt unless listed in chemical composition.

SECTION 3 - PHYSICAL DATA

Products are solid metals shaped as wire of various diameters, and forms.

SECTION 4- FIRE AND EXPLOSION DATA

(Nonflammable) Welding arc and sparks can ignite combustibles. Refer to American National Standard Z49.1, Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 351040, Miami, FL 33135, for fire prevention and protection information during the use of welding and allied procedures.
NOTES:* As defined by OSHA (29CFR 1910.1200) or certain procedures
1. Permissible Exposure Limit - (mg/m3) -OSHA (29CFR 1910).
2. Threshold Limit Value - (9mg/m3) - (American Conference of Governmental industrial Hygienists current as of MSDS revision date).

SECTION 5- HEALTH HAZARD INFORMATION

EXPOSURE LIMITS: Section 2 lists specific hazardous ingredients and exposure limits. Section 6 lists exposure limits for hazardous reaction products that might be forming by welding.
IMPORTANT – Please determine actual exposure by industrial hygiene monitoring.

POSSIBLE SIGNS AND SYMPTOMS OF EXPOSURE TO DUST, WELDING FUME AND GASES SHORT TERM EXPOSURE: Metallic taste, nausea, tightness of chest; fever; irritation of eyes, nose, throat and skin; loss of consciousness/death due to welding gases or lack of oxygen.

LONG TERM EXPOSURE: Adverse effects may result from long time exposure to welding fume, gases, or dusts. These effects may include skin sensitization, neurological damage, and respiratory disease such as bronchial asthma, lung fibrosis or pneumoconiosis. Nickel and chromium must be considered possible carcinogens under OSHA (29CFR 1910.12000.) The International Agency for Research on cancer has indicated that nickel and certain nickel /Chromium compounds are probably carcinogenic for humans, but that the specific compounds which may be carcinogenic cannot be precisely. This conclusion was based on experience in certain nickel refining operations. Chromium has also been listed by IARC because of “sufficient evidence for the carcinogenicity of chromium and certain chromium compounds.” The studies forming the basis for the conclusion were from operations different from the production or welding of nickel and chromium alloys. Recent epidemiological studies of workers melting and working alloys containing Nickel/Chromium have found no increase risk of cancer. Nevertheless, exposure MUST be maintained below the levels specified in section 2, and section 6.
AGGRAVATION: pre-existing respiratory or allergic conditions may occur in some workers.

EMERGENCY AND FIRST AID: Remove from exposure and obtain prompt medical attention. If victim is unconscious, administer oxygen. If not breathing, resuscitate immediately.

SECTION 6- REACTIVITY INFORMATION

HAZARDOUS REACTION PRODUCTS: Fumes and gases from welding cannot be classified simply. The composition and quantity of both depend on the metal being welded, the procedures, and electrodes used. The constituents of the fume are generally different from the ingredients listed in Section 2 and may include oxides of the metals, chromates, fluorides, and complex metallics. The gases may include carbon monoxide, ozone, and oxides of nitrogen. Chlorinated solvents may be decomposed by the arc into toxic gases such as phosgene.

The following exposure limits apply to those fumes and gases which may be found in the welding environment.

SUBSTANCE	PEL	TLV	SUBSTANCE	PEL	TLV
Aluminum fume (Al)	None	10.0	**Molybdenum (Soluble) (Mo)**	15.0	10.0
Carbon Monoxide (CO2)	50ppm	50ppm	**Nickel (Soluble) (Ni)**	1.0	1.0
Chromium (Chromates)	1.0	0.50	**Nitrogen dioxides (N02)**	5.0ppm	3.0ppm
Cobalt fume (Co)	0.1	1.0	**Zinc fume/dust (Zn)**	5.0	5.0
Copper fume/dust (Cu)	0.1/1.0	0.2/1.0	**Silicon dust (Si)**	None	10.0
Fluorides (as F)	2.5	2.5	**Ozone (03)**	0.1ppm	0.1ppm
Iron Oxide Fume (Fe)	10.0	5.0	**Phosgene (COC12)**	0.1ppm	0.1ppm
Manganese fume (Mn)	5.0	5.0/1.0	**Titanium fume/dust (Ti)**	15.0	10.0
Magnesium Oxide Fume (Mg)	15.0	10.0			

(PEL/TLV values are mg/m3 except where indicated as ppm)

SECTION 7 – SPILL OR LEAK PROCEDURE

WASTE DISPOSAL METHOD: Prevent waste from contaminating surrounding environment. Discard any product residue, in a disposable container or liner in an environmentally acceptable manner, in full compliance with applicable federal, state, and local regulations.

SECTION 8 AND 9 –SPECIAL PROTECTION IFOMANTION AND PRECAUTIONS

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 P.O. Box 351040, Miami FL 33135 and OSHA Publication 2206 (29CFR 1910) U.S. Government Printing Office, Washington, DC 20402, for more detail on many of the following. See publication guide Methods for Sampling and Analyzing Gases from Welding and Allied Processes published by the American Welding Society publication F 1.5

VENTILATION: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below TLV'S in the worker's breathing zone and general area. See publication guide Welding Fume Control from American Welding Society publication F3. 1. Train the welder to keep his head out of the fumes.

RESPIRATORY PROTECTION: Use respiratory fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV'S use only NIOSH approved respirators in accordance with 29 CFR 1910.134 Respiratory Protection. Train welder in the use of Respirators.

EYE PROTECTION: Wear helmet or use face shield with filter lens shade number "10" or darker. Provide protective screens and flash goggles if necessary to shield others. Select Welding lens shade from the American Welding Society Publication F2.2. Train welder in the use of proper eye protection.

PROTECTIVE CLOTHING: Wear hand, head and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1 1. At a minimum, this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, etc. That may be appropriate to protect against injury or exposure.

ELECTRICAL SHOCK CAN KILL. Train the welder not to touch live electrical parts and to insulate himself from the work being welded and the work should be grounded.

SECTION 8 AND 9 CONTINUED…

DISCLAIMER OF LIABILITY

As the condition or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate. All statements or suggestions are made without any warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained thereof.

Refer to the following sources for additional information.

Safety in Welding	OSHA Regulations	Safety in Soldering
The American Welding Society P.O. Box 351040 Miami, FL 33235 Phone: 800 334-9353	U.S. department of Labor Washington DC 20210	Lead Industries Assoc. 292 Madison Avenue New York, NY 10017 Phone: 212 570-4750
Safety in Welding ANSI Z49.1	OSHA (29CFR 1 910)	Safety in Soldering

SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986
IN CALIFORNIA PROPOSITION 65

OEHHA'S PROPOSITION 65 PROGRAM AT 916.445.6900
OR VISIT http://www.oehha.ca.gov/prop65.html

Notes:

TLV = Threshold Limit Values – American Conference of Governmental Industrial Hygienists
PEL = Permissible Exposure Limit – OSHA 29 CFR1910.1000
C = Ceiling Limit
STEL = Short Term Exposure Limit – a time-weighted 15-minute exposure limit not to be exceeded at any time during a workday.
CAS = No-Chemical abstracts services number