

TELLING INDUSTRIES MATERIAL SAFETY DATA SHEET LIGHT GAUGE FRAMING AND ACCESSORIES
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I. IDENTIFICATION

PRODUCTS NAME: Galvanized sheet-carbon steel utilized in steel framing components and accessories.

CHEMICAL FAMILY: Steel

II. INGREDIENTS AND RECOMMENDED EXPOSURE LIMITS.

Material	%	TLV Mg/M ³	PEL Mg/M ³	CAS NO.
Chromium	0.01 – 12	0.5 as Cr	1.0 as Cr	7440-47-3
Cobalt	8.0 Max.	0.05 as fume	0.1 as Co	7440-48-4
Copper	0.04 -0.7	0.2 as fume	0.2 as Cu	7440-50-8
Lead	0.15-0.35	0.15 as dust & fume	0.05	7439-92-1
Manganese	0.05-2.0	5 as dust & 1 as fume	5 ceiling	7439-96-5
Molybdenum	0.01-1.1	5 as sol. compounds	5 as sol. compounds	7439-98-7
Nickel	0.01-10	1 as Ni	1 as Ni	7440-02-0
Zinc	0.10-5	5 as fume, 10 as dust	5 as fume	7440-66-6
Iron	Balance	5 as fume	5 as fume	7439-89-6

1. The above list contains a summary of elements used in the production of steel alloys. Differing grades of steel will contain differing combinations of these elements. There may be additional elements present in trace amounts.
2. ACGIH recommends a Threshold Limit Value (TLV) for welding fume of 5 mg/ M³, in addition to any other applicable TLV. If wearing a welding helmet, a welder is unlikely to exceed this.

III. PHYSICAL DATA

BOILING POINT:	NA ³	MELTING POINT:	2750° F (Base Metal)
VAPOR PRESSURE:	NA	VAPOR DENSITY (Air = 1):	NA
SOLUBILITY IN WATER:	NA	SPECIFIC GRAVITY (H ₂ O = 1):	7
VOLATILE BY VOLUME (%):	NA	EVAPORATION RATE (H ₂ O = 1):	NA
APPEARANCE AND ODOR:	Gray-Black with metallic luster. Odorless		

³Boiling point of zinc (in galvanized steel) is 1665° F.

IV. FIRE AND EXPLOSION HAZARD DATA

All steel products are in solid state and present no fire or explosion hazard.

V. REACTIVITY DATA

Stable under normal conditions of transport, storage and use. Reacts with strong acid to produce hydrogen. At temperatures above melting point of coating (900 degrees F) zinc fumes may be liberated.

VI. HEALTH HAZARD DATA

Under normal conditions, steel products do not present an inhalation, ingestion or contact health hazard. However, operations such as welding, "burning", brazing, and to a lesser extent, sawing, grinding, and possibly machining, which result in elevating the temperature of the product to or above its melting point, can result in the generation of airborne respirable particles which may present hazards. These operations should be performed in well-ventilated areas. The major exposure hazard is inhalation, especially of welding fumes.

EFFECTS AND OVEREXPOSURE:

ACUTE: Excessive inhalation of metallic fumes and dusts may result in irritation of eyes, nose and throat. Also, high concentrations of fumes and dusts of iron oxide, manganese, copper, zinc and lead may result in metal fume fever. Typical symptoms consist of a metallic taste in the mouth, dryness and irritation of the throat, chills and fever, and usually lasts from 12 to 48 hours.

CHRONIC: Chronic and prolonged inhalation of high concentrations of fumes or dust of the following elements may lead to the conditions listed opposite the element:

Iron (iron oxide) Pulmonary effects, siderosis

Chromium Various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract, and possible cancer of nasal passages and lungs. Based on available information, there does not appear to be any evidence that exposure to welding fumes induces human cancer.

Nickel	Same as chromium
Copper	Pulmonary effects
Vanadium	No reported cases of exposure to vanadium
Cobalt	Inhalation of cobalt dust may cause an asthma-like disease with cough and dyspnea.
Tungsten	Some evidence of pulmonary involvement, such as cough.
Molybdenum	Pain in joints, hands, knees and feet.
Lead	Prolonged exposures can cause behavioral changes, kidney damage, periphery neuropathy, characterized by decreased hand-grip strength and adverse reproductive effects.
Zinc	None reported

TARGET ORGAN: Lungs

MEDICAL CONDITION WHICH MAY BE AGGREGATED: Pre-existing upper respiratory and lung disease such as, but not limited to, bronchitis, emphysema and asthma.

PRIMARY ROUTE OF ENTRY: Inhalation

EMERGENCY AND FIRST AID PROCEDURES:

Eyes:

Immediately flush well with running water to remove particles. GET MEDICAL ATTENTION.

Skin:

If irritation develops, remove clothing and wash well with soap and water. If condition persists, seek medical attention.

Inhalation:

Remove to fresh air; if condition continues, consult physician.

Ingestion:

If significant amounts of metal are ingested, SEEK MEDICAL ATTENTION.

VII. SPILL OR LEAK PROCEDURES – N/A

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY:	Use a NIOSH/MSHA approved respirator for per the manufacturer's recommendations to avoid excess inhalation of particulates.
SKIN:	Protective gloves should be worn as required for welding, burning, cutting, and handling.
EYE:	Use safety glasses or goggles as required for welding, burning, brazing, grinding or machining.
VENTILATION:	General mechanical and local exhaust, if needed.
PROTECTIVE EQUIPMENT:	Safety glasses should always be worn when grinding or cutting. Face shields should be worn when welding or burning. Wear gloves when handling.

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:	Store in a dry place and on a level surface.
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