



JOISTS/GIRDERS

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"MSDS"

FOR STEEL JOIST, GIRDERS AND ACCESSORIES IN COMPLIANCE WITH OSHA 29 CFR 1910.1200
DATE OF ISSUE SEPTEMBER 2006

I. PRODUCT IDENTIFICATION: STEEL JOIST, JOIST GIRDERS & ACCESSORIES

MANUFACTURERS: Members of the Steel Joist Institute
Suite A, 1205 48th Ave. North
Myrtle Beach, SC 29577
Telephone: (803) 449-0487

For the names of the member manufacturers, write the Managing Director of the Steel Joist Institute.

II. HAZARDOUS INGREDIENTS:

IN IT'S MANUFACTURED & SHIPPED STATE:

THIS PRODUCT IS CONSIDERED NON-HAZARDOUS. WELDING TO THE PRODUCT OR OTHER PROCESSING INVOLVING THE PRODUCT MAY GENERATE FUMES AND PARTICULATE MATTER.

III. PHYSICAL DATA:

PHYSICAL STATE – SOLID

APPEARANCE AND COLOR – Primed coated red, gray, white, bronze, orange, galvanized or aluminum painted. Bare metal is rust/gray-black; odorless

SPECIFIC GRAVITY: 7.8

MELTING POINT: 2600-2800 Degrees Fahrenheit

SOLUBILITY IN WATER: N/A

BOILING POINT: N/A

VAPOR PRESSURE: N/A

VAPOR DENSITY: N/A

EVAPORATION RATE: N/A

% VOLATLE BY VOLUME: N/A

IV. FIRE & EXPLOSION HAZARD DATA: Steel Joist products in the solid form present no fire or explosion hazards

FLASH POINT: N/A

METHOD USED: N/A

FLAMMABLE LIMITS: LEL= N/A; UEL= N/A

AUTO-IGNITION TEMPERATURE: N/A

EXTINGUISHER MEDIA: N/A

SPECIAL FIRE FIGHTING PROCEDURES: N/A

V. REACTIVE DATA:

STEEL JOIST ARE STABLE UNDER NORMAL CONDITION OF USE, STORAGE AND SHIPPING.
THE STEEL MELTING TEMPERATURE RANGE IS 2600F TO 2800F.

VI. HEALTH HAZARDS:

STEEL JOIST IN THEIR USUAL PHYSICAL FORM DOES NOT PRESENT A HEALTH HAZARD TO THE ENVIRONMENT. WELDING, FLAME CUT BURNING OR GRINDING & SIMILAR ACTIONS ON THE JOIST MAY EMIT POTENTIALLY HAZARDOUS METAL AND/OR CAUSE GASEOUS FUMES.

ACUTE: NONE

CHRONIC: OVER EXPOSURE TO WELDING FUMES MA BE GENERATED FROM THE STEEL JOIST WITH THE FOLLOWING HEALTH EFFECTS ASSOCIATED WITH OVER EXPOSURE TO THE FUMES WITHOUT SUFFICIENT VENTILATION:

LIST OF FUMES

IRON (Fe) FUMES

Subjecting iron or alloys containing iron to high temperatures, such as occurs during welding, will cause the formation of iron oxide. Long term exposure to iron oxide fumes or dust has been associated with a benign lung condition known as siderosis which is observable as an X-ray change. No physical impairment of lung function has been linked to siderosis, a deposit of iron in the lungs.

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NICKEL (Ni) FUMES

Nickel fumes and dusts produced from welding, burning or grinding, are respiratory irritants and may cause a severe chemical pneumonitis. Skin contact with Nickel and its compounds may cause an allergic dermatitis. Nickel and its compounds may also produce eye irritation, on the inner surfaces of the eyelids: i.e., the conjunctiva. Animal and/or epidemiology studies have linked Nickel compounds to an increased of cancer of the lungs & nasal passages.

ZINC (Zn) FUMES

High temperatures, such as occurs during welding of flame cutting, will cause the formation of Zinc oxides. Exposure to Zinc oxide fumes or dust can result in influenza referred to as "metal fume fever".

Early symptoms may include a sweet metallic taste in the mouth, dryness and irritation of the throat, and coughing. These symptoms may progress to shortness of breath, headache, fever, chills, muscle aches, nausea, vomiting, weakness, fatigue, and profuse sweating. The attack may last six to forty-eight hours. The attack is more likely to occur four to eight hours after exposure.

EMERGENCY FIRST AID PROCEDURES:

For exposure to fumes and particulate matter, remove the person to fresh air. If breathing is difficult or has stopped, administer oxygen or artificial respiration as indicated by the situation. Seek medical attention promptly.

"Metal fume fever" is normally self-limiting and should be treated symptomatically by a physician. If particulate matter enters the eyes, flush with water for at least fifteen minutes. If irritation persists seek medical attention.

VII. SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES**RESPIRATORY PROTECTION:**

Respirator needs and selection depends on the ventilation provided during welding to the joist product and the magnitude of the exposure to the welding fumes. The amount of fumes or gasses that the welder is liable to inhale is governed by numerous factors such as the dimensions of the welding area, the arc time, the ventilation afforded, the type of welding, the materials involved and electrode size.

An increased hazard may exist in a well ventilated area if the position of the work or the work habits of the welder is such that the welder works with their head in the path of the fumes. The single most important factor is governed by the welder and positioning of the head with respect to the path of the fumes.

VENTILATION:

Ventilation should be sufficient to maintain exposure levels below the applicable exposure limit for welding. No filter or cartridge type of respirator will protect against carbon monoxide or nitrogen dioxide. Air line respirator hose mask, or gas mask is the required respirator protection. These should be used where any question of adequacy exists after proper survey-investigation of the air is done.

PROTECTIVE GLOVES: Should be worn while welding.

LOCAL EXHAUST: Yes, while welding in confined area (see ventilation).

EYE PROTECTION: Yes, protect the eyes while welding from heat and glare of the flame or arc; from the particles of the hot metal that may that may fly up from the work piece. In arc welding, its necessary for welders to be equipped with shields or helmets that will protect not only the eyes but also the skin, because of the intensity of the ultraviolet and infrared rays. The arc should not be struck without having such helmet of shield over the face. **LENSES SUITABLE FOR GAS WELDING OR CUTTING SHOULD NOT BE DEPENDED UPON FOR PROTECTION AGAINST THE RAYS FROM ARC WELDING.**

OTHER PROTECTIVE CLOTHING: Should be worn to protect from burns, spatter or in the case of arc welding or cutting from the radiant energy from the arc.

Woolen clothing is preferable to cotton because it is not readily ignited and does not disintegrate as rapidly as cotton when exposed to the intense ultraviolet radiation in gas metal arc welding.

Outer clothing should be free of oil or grease. Sparks, hot slag or hot metal may lodge in rolled up sleeves, in pockets or in the cuffs of overalls or trousers.

High top safety shoes or boots are recommended.

Welders should wear flameproof gauntlet gloves, preferably of leather.

All clothing and gloves should be kept in good repair. Wet or worn gloves and clothing have lost their protective qualities.

NOTE: THIS INFORMATION HAS BEEN TAKEN FROM SOURCES BELIEVED TO BE PERTINENT AND RELIABLE. NO GUARANTEE AS TO ABSOLUTE CORRECTNESS OR COMPLETENESS OF ANY OF THE FOREGOING INFORMATION IS MADE OR IMPLIED: OR THAT ADDITIONAL, OR OTHER MEASURES MAY NOT BE REQUIRED UNDER CERTAIN CONDITIONS.

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MATERIAL SAFETY DATA SHEET

MANUFACTURER: CMC Steel Alabama
 ADDRESS: 101 South 50th Street
 Birmingham, AL 35212
 PHONE: 205-592-8981 (24 hrs. a day)

NO: 85-1

DATE: 11-1-85 Rev. 2-15-01

SECTION I. MATERIAL IDENTIFICATION

CHEMICAL NAME AND SYNONYMS: Non-resulfurized carbon steel

TRADE NAME AND SYNONYMS: Various steel products such as concrete reinforcing bar (rebar); angles; smooth rounds; square sections; flats; channels; beams; special "T" shapes; studded "T" steel fence post stock, etc.

CHEMICAL FAMILY: N/A

FORMULA: N/A

SECTION II. INGREDIENTS AND HAZARDS (stated in mg/m³)

	CAS NUMBERS	%	HAZARD DATA	OSHA PEL	(ACGIH) TLV
Aluminum	7429-90-5	0.5	Fume	—	5.0
			As dust	1.0	1.0
Carbon	1333-86-4	0.3	Not listed	—	—
Chromium	744440-47-3	0.1	As soluble Cr salts (VI)	0.5	0.5
			As metal and insol. Cr	1.0	1.0
Copper	7440-50-8	0.5	As dust	1.0	1.0
Iron	12040-57-2	99.0	As Fe	—	5.0
Iron	1309-37-1		As iron oxide fume	10.0	—
Molybdenum	7439-98-7	0.1	As fume	0.1	0.2
Nickel	7440-02-0	0.5	As metal (Ni)	1.0	1.0
			As soluble Ni comp.	1.0	1.0
Phosphorus	7723-14-0	0.2	As yellow phosphorus	0.1	0.1
Silicon	7440-21-3	—	As nuisance dust	15.0	15.0
Sulfur	7446-09-5	0.1	As sulfur dioxide	13.0	5.0

SECTION III. PHYSICAL DATA

Boiling point at 1 atm., deg. F: 5420
 Vapor pressure at (mm Hg): N/A
 Vapor density (Air-1): N/A
 Water solubility: N/A

Specific gravity (H₂O-1): approx 8.0
 Evap. Rate (N/A -1): N/A
 Volatiles, % volume: N/A
 Molecular weight: N/A

Appearance/Odor:
 Odorless solid with metallic luster.

SECTION IV. FIRE AND EXPLOSION DATA

	LOWER	UPPER
Flash point and Method: N/A	N/A	N/A
Autoignition Temp: N/A		
Flammability Limits In Air: N/A		

Extinguishing media: Non-combustible – no fire or explosion hazard

Special fire fighting procedures: N/A

Unusual fire and explosion hazards: N/A

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SECTION V. HEALTH HAZARD INFORMATION		TLV-15mg/m³ as nuisance dust.	
Effects of over exposure: No toxic effects would be expected from inert solid form. Prolonged repeated exposure to fumes or dust generated by heating, cutting/burning, grinding or welding could result in minor skin or eye irritation.			
FIRST AID:			
Eye contact: Flush well with running water to remove particles; obtain medical attention.			
Skin contact: Brush off excess dust; wash area well with soap and water.			
Inhalation: Remove to fresh air; obtain medical attention.			
Ingestion: Seek medical attention if large quantities of material have been ingested.			
SECTION VI. REACTIVITY DATA			
Stability	Stable	X	Conditions to avoid: N/A
	Unstable		
Incompatibility (Materials to Avoid): Concentrated inorganic acids			
Hazardous decomposition products: Hydrogen gas			
Hazardous Polymerization	May occur		Conditions to avoid: Exposure to concentrated inorganic acids and/or hydrogen gas
	Will not occur	X	
SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES			
SPILLS, LEAKS: (Steps to be taken) N/A			
WASTE DISPOSAL METHOD: Material should be reclaimed for re-use; follow local, State, & Federal solid waste disposal requirements.			
SECTION VIII. SPECIAL PROTECTION INFORMATION			
Respiratory protection: During welding, cutting/burning or grinding operations, precautions should be taken to control airborne particles and/or fumes; use general service or nuisance dust respirator of type approved by HIOSH/MSHA			
Ventilation:	Local Exhaust: To control dust, fumes, etc. when grinding, cutting/burning.	Special: N/A	
	Mechanical (General): N/A	Other: N/A	
Protective gloves: To protect against skin abrasion.		Eye Protection: Safety glasses with sideshields of type approved by OSHA/MSHA	
Other protective equipment and precautions: N/A			
SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS			
Storage & Handling Information: General good housekeeping practices are sufficient			
Other Precautions: None			
DOT Class: Non-hazardous			
We believe that all information given herein is accurate and is offered in good faith. However, although reasonable care has been taken in the preparation of this information, conditions of use and suitability of this information for buyer's purposes are the buyer's responsibility and we make no warranties or representations, and assume no responsibilities, as to the accuracy or sufficiency of such information for application to the buyer's use or for consequences thereof.			
Where the information provided herein discloses a potential hazardous ingredient, adequate warning should be provided to employees and users, and appropriate precautions taken including, without limitation, the practice of good industrial hygiene.			