

REBAR

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MATERIAL SAFETY DATA SHEET

CARBON AND ALLOY STEELS

Issued: September 22, 1987

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SECTION I - MATERIAL IDENTIFICATION

Material Name: Carbon and Alloy Steels

Other Designations: A-36, Carbon SBQ, Alloy SBQ,
60 Rebar, 11XX SBQ

Manufacturer: Chaparral Steel
300 Ward Rd
Midlothian, Texas 76065

Emergency Information/Telephone
(972) 775-8241
Ask for Environmental Manager

SECTION II - HAZARDOUS INGREDIENTS

Elements	% By Weight	Hazardous Form	CAS Number	ACGIH TLV TWA, mg/m ³	OSHA PEL TWA, mg/m ³	NIOSH REL TWA, mg/m ³
Iron	>94	Oxide Fume	1309-37-1	5	10***	5***
Carbon	<1	Carbon Black	1333-86-4	3.5	3.5	3.5
Chromium	<1.2	Metal	7440-47-3	0.5	1	0.5
Manganese	<1.65	Dust Fume	7439-96-5 7439-96-5	5 1:3-(c)	5(c) 1:3 9(c)	1:3 (c)
Molybdenum	<1	Insoluble	7439-98-7	10	10*	0.015
Nickel	<2.0	Metal	7440-02-0	0.05	1	10**
Silicon	<1	Crystal	7440-21-3	10	10* 5**	5**

* Total Dust ** Respirable Fraction *** Total Dust (c) = STEL/CEILING

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Melting point: 1371-1482 degrees C. Vapor Pressure (Iron Dust): 1 mm Hg @ 1787 degrees C.
Specific gravity (@60 F.): 7.84 Solubility in H₂O: Insoluble
Appearance and Odor: Metallic silver-grey, odorless.

SECTION IV - FIRE and EXPLOSION DATA

Flash Point: N/A Flammability Limits: N/A Autoignition Temperature: 930 degrees C.
Solid, massive form is non-combustible.

Fire and explosion hazards are moderate when material is in the form of dust and is exposed to heat or flame, or attacked by chemical reaction. Fires have been reported in piles of fine scrap, probably due to contamination from oil or other materials which support combustion.

Fire extinguishing Methods: Use special mixtures of dry chemicals or sand. Firefighters should wear self-contained breathing apparatus and protective clothing.

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SECTION V – REACTIVITY DATA

Massive material is stable at ordinary temperatures and during normal conditions of use, storage, and transport.

Dust presents moderate fire and explosion hazards.

Material may be incompatible with acids, bases and oxidizers.

SECTION VI – HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY-Inhalation, ingestion, eye and skin contact or dust of fume (See Section II for threshold limit values).

Under normal handling and use, exposure to massive forms of steel presents no health hazards. Grinding, thermal cutting, and melting of steel may produce fumes containing elemental constituents, and breathing these fumes may present potentially significant health hazards. The exposure levels in section II are relevant to fumes and dusts. Special precautions should be taken if steel is contaminated (See section IX).

Chronic overexposure to iron oxide fumes may cause an early apparently benign pneumoconiosis (siderosis) with few or no symptoms. Overexposure to dusts and especially fumes containing elemental constituents of ferrous alloys may cause skin, nose, and eye irritation and lung changes in workers, potentially leading to pulmonary diseases.

Manganese fumes may cause metal fume fever with flu-like symptoms. Over exposure to manganese fumes can cause chronic manganese poisoning. Early symptoms include headaches, apathy, sleepiness, and weakness or cramps in the legs. Chronic overexposure can effect the central nervous system, ultimately leading to emotional disturbances, gait and balance difficulties, and paralysis.

Chromium and nickel compounds have been associated with allergic reactions and rashes, and lung changes. Nickel is a respiratory irritation and causes pneumonitis. Hexavalent chromium compounds and some nickel compounds have been identified as potential human carcinogens.

SECTION VII – PRECAUTIONS for SAFE HANDLING and USE

Spill Procedures:

No special precautions are necessary for spills of bulk solid material. If large quantities of dust are spilled, remove by vacuuming or wet sweeping to prevent heavy concentrations of airborne dust. Cleanup personnel should wear respirators and protective clothing.

SECTION VIII – CONTROL MEASURES

Use general and local exhaust ventilation to control airborne concentrations of dust or fumes. Employees should wear NIOSH-approved respirators for protection against airborne dust or fumes. Full protective clothing should be worn by workers exposed to heavy concentrations of dust, and showering should be required before changing into street clothes. Gloves and barrier creams may be necessary to prevent skin sensitization and dermatitis. Approved safety glasses or goggles should be worn when working with dusty material. Safety eyewash stations should be provided in close proximity to work areas. Food should not be consumed in the work area.

Pre-employment and periodic medical evaluations should be provided. Attention should be directed toward skin, eyes, respiratory tract, pulmonary function and neurologic health. Chest X-rays should be included if symptoms are present.

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SECTION IX – SPECIAL PRECAUTIONS

Use good housekeeping practices to prevent accumulations of dust to keep airborne dust concentrations at a minimum. Avoid breathing metal dust or fumes. Store material away from incompatible materials and keep dust away from sources of ignition. This material is potentially contaminated with coatings, paints, preservatives, cutting oils, and other contaminants. If the material is contaminated, special precautions (such as process control and personnel protective equipment, appropriate to the nature of the suspected contaminants) should be taken to avoid resulting exposures when handling, cutting (mechanical or thermal), grinding, and/or melting.

DISCLAIMER

This data is offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is hereby made. The recommended Industrial Hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. Because the conditions or methods of handling of the material described by this data sheet are beyond our control and may be beyond our knowledge, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of such handling.