



WESTBROOK

Material Safety Data Sheet

CompanyWestbrook Manufacturing
1111 Lockwood Dr
Houston TX 77020**Issue Date**

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Identification Number

WM

Trade Name (Common Name or Synonym)

Carbon, Alloy and Stainless Forgings and Pipe Fittings

Emergency Phone Number

800-231-8014 or 713-675-6438

Chemical Name

Steel, Copper, Aluminum, Brass

Form

Machined & Unmachined Forgings and Pipe Fittings

I. INGREDIENTS

<u>Material or Component</u>	<u>CAS Number</u>	<u>% Weight</u>	<u>Exposure Limits</u>	
Base Metal			OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)
Iron (Fe)	7439-89-6	Balance	10(Fe2O3 Fume)	5.0 (Fe2O3 Fume)
Alloying Elements				
Aluminum (Al)	7429-90-5	0.10 – 100	None Listed	5.0 as welding fume
Carbon (C)	7440-44-0	0.01 – 1.5	None Listed	None Listed
Chromium (Cr)	7440-47-3	0.01 – 27	1.0 as chrome	0.5 as chrome
Cobalt (Co)	7440-48-4	8 Max.	0.1 as cobalt and fume	0.05 as fume
Copper (Cu)	7440-50-8	0.04 – 100	0.2 as copper; 1.0 as dust	0.2 as fume; 1.0 as dust
Lead (Pb)	7439-92-1	0.15 – 0.35	0.05 as fume & dust	0.15 as dust and fume
Manganese (Mn)	7439-96-5	0.05 – 2.0	5 as manganese	5 as dust; 1 as fume
Molybdenum (Mo)	7439-98-7	0.01 – 1.10	15 as insoluble compounds	10 as insoluble compounds
Nickel (Ni)	7440-02-0	0.01 – 22	1.0 as nickel	1.0 as nickel
Phosphorous (P)	7723-14-0	0.16 Max.	0.1 as phosphorous	0.1 as phosphorous
Silicon (Si)	7440-21-3	0.15 – 2.20	None Listed	10 total dust
Sulfur (S)	7704-34-9	0.001 – 0.35	13 sulfur dioxide	5 sulfur dioxide
Tungsten (W)	7440-33-7	0 – 18	None Listed	5 insoluble compounds
Vanadium (V)	7440-62-2	0.01 – 1.0	0.5 dust; 0.1 fume	0.05 dust and fume
Zinc (Zn) coating	1314-13-2	10.002 Max	5.0 as fume	5.0 as fume

Note: Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts. Forgings may have phosphate conversion coating, the elements of which are included in the ingredients, and rust protection oil. Fittings may also contain plastic or rubber components.

II. PHYSICAL DATA

Material is (At Normal Conditions):**Solid****Melting Point** – Approx2750 deg F (Steel), 1220 deg F (Al),
1981 deg F (Cu), 1823 deg F (Brass)**Boiling Point** - NA**Appearance and Odor**

Gray-Black with Metallic Lustre- Odorless

Specific Gravity (H2O = 1) – 7**Solubility in water** (% by weight) - NA**Acidity / Alkalinity**

pH = NA

Vapor Pressure (mm Hg@20 deg C)

NA

III. PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection

NIOSH approved dust/mist/fume respirator should be used during welding or burning if OSHA PEL or TLV is exceeded.

Eyes and Face

Safety glassed should be worn when grinding or cutting; face shields should be worn when welding or burning.

Hands, Arms, Body

Use appropriate protective clothing such as welder's aprons & gloves when welding or burning. Check local codes.

Other Clothing and Equipment

As required

III. EMERGENCY MEDICAL PROCEDURE

- Inhalation: Remove to fresh air, if condition continues, consult physician.
Eye Contact: Immediately flush well with running water to remove particulate; get medical attention.
Skin Contact: If irritation develops, remove clothing and wash well with soap and water. If condition persists, seek medical attention.
Ingestion: If significant amounts of metal are ingested, seek medical attention.

IV. HEALTH/SAFETY INFORMATION HEALTH

Metal pipe fittings in the natural state do not present air inhalation, ingestion or contact health hazards. However, operations such as welding, burning, sawing, brazing, grinding, and other processes which elevate the temperature of the product to or above its melting point or result in the generation of airborne particulates may present hazards. These operations should be performed in well-ventilated areas. The major exposure hazard is inhalation.

Effects of 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, & selenium 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 last 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.

Manganese – Bronchitis, pneumonitis, lack of coordination.

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

Nickel – Same as Chromium.

Selenium – Nasal and bronchial irritation, gastrointestinal disturbances, garlic odor of breath.

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.

Molybdenum – Pain on joints, hands and feet.

Occupational Exposure Limits

See Section I.

FIRE AND EXPLOSION

Flash Point	Auto Ignition Temperature	Flammable Limits in Air	Extinguishing Media
NA	NA	NA	NA

Fire and Explosion Hazards	Extinguishing Media Not to be Used
None	NA

REACTIVITY

Stability

Stable

Incompatibility (Materials to Avoid)

Reacts with strong acids to form hydrogen gas.

Conditions to Avoid

Non-ventilated areas when cutting, welding, burning, or brazing; avoid generation of airborne dusts and fumes.

Keep Area Well Ventilated

Hazardous Decomposition Products

Metallic oxides.

V. ENVIRONMENTAL

Spill or leak procedures Special Precautions: Use good housekeeping practices to prevent accumulation of dust NA and to keep airborne dust to a minimum.

Waste Disposal Method

Dust, etc. – follow federal, state, and local regulations regarding disposal.

VI. ADDITIONAL INFORMATION

Disclaimer

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