



# SAFETY DATA SHEET

## Section 1 – Product and Company Information

**Material Name:** Tool Steel, Alloy, Stainless, and High Speed Steel

Including but not limited to the following grades:

**Tool Steel:** W1, A2, D2, H13, O1, S7

**Alloy:** 4140/4142, C1018, A36

**Stainless:** 410, 420, 440C

**High Speed:** M2, M3, M4, M43, M34, T15

**Manufacturer Information:** Precision Marshall Steel Company  
99 Berry Road  
Washington, PA 15301

Phone: 724-222-2100

**Recommended Use:** Solid steel, various uses and forms

## Section 2 – Hazards Identification

**Classification:** Solid

**Signal Word:** Non Hazardous

**Hazard Statement:** Solid metallic products are generally classified as “articles” and do not constitute a hazardous material in solid form under the definitions of OSHA Hazard Communication Standard 29 CFR 1910.1200.

Any articles manufactured from these solid products would be generally classified as non-hazardous. Subsequent operations such as cutting, grinding, milling, welding or processing in any other manner may produce potentially hazardous dust or fumes which may be inhaled, swallowed or come in contact with skin or eyes. Inhaling dusts, fumes or mists generated during manufacturing processes may be hazardous to your health. This material may have a light coating of oil for rust prevention.

**Precautionary Statements:**

Wear personal protective equipment when required.

Gloves should be worn when handling.

Face/eye protection should be worn when processing.

Do not breathe dust/fumes when processing.

In case of inadequate ventilation wear respiratory protection.

### Section 3 – Composition/Information

COMPONENT		CAS NO.	TOOLSTEEL	ALLOY	STAINLESS	HIGH SPEED
Iron	Fe	7439-89-6	BASE	BASE	BASE	BASE
Chromium	Cr	7740-47-3	0.0 - 13.0	0.8 - 1.20	1.5 - 18.0	0.0 – 4.50
Molybdenum	Mo	7439-98-7	0.0 - 1.50	0.0 - 0.35	0.0 - .750	0.0 – 5.50
Vanadium	V	7440-62-2	0.0 - 1.20	0.0 - 0.30	-	0.0 – 2.20
Nickel	Ni	7440-02-0	0.0 - 0.40	0.0 - 0.50	0.0 - 0.25	0.0 – 0.40
Manganese	Mn	7439-96-5	0.0 - 2.50	0.7 - 1.30	0.0 - 1.00	0.0 – 0.40
Carbon	C	7440-44-0	0.0 - 1.60	0.15 - 0.42	0.0 - 1.20	0.0 – 0.88
Silicon	Si	7740-21-3	0.0 - 1.20	0.15 - 0.45	0.0 - 1.00	0.0 – 0.45
Copper	Cu	7440-50-8	0.0 - 0.30	0.0 - 0.30	0.0 - 0.20	0.0 – 0.25
Tungsten	W	7440-33-7	0.0 - 0.30	0.0 - 0.00	-	0.0 – 6.75
Phosphorous	P	7723-14-0	0.0 - 0.40	0.0 - 0.35	0.0 - .040	0.0 – 0.025
Sulfur	S	7704-34-9	0.0 - 0.05	0.0 - 0.40	0.0 - 0.03	0.0 – 0.025

Note: all values expressed as weight percent and are approximate

The above listing is a summary of elements used in tool steel, alloy, stainless and high-speed steels. Different grades contain various combinations of these elements. Other trace elements may also be present in minute amounts. These small quantities are referred to as “trace” or “residual” elements; they originate in the raw materials used. The elements listed above are considered to be components rather than trace.

### Section 4 – First Aid Measures

Steel in its present state is not likely to present any acute or chronic health effects. However, during processing such as cutting, grinding, milling, or welding, fumes or dust may be emitted that may cause irritations, difficulty in breathing or allergic skin reactions.

**Eye Contact:** Flush immediately with running water to remove particles. Keep eye wide open while rinsing. Get medical attention if irritation persists.

**Skin Contact:** If irritation develops, brush off excess dust. Wash area with soap and water to remove particles.

**Inhalation:** Move to fresh air. If condition continues, consult a physician

**Ingestion:** Do not induce vomiting. Consult a physician if large quantities have been ingested.

### Section 5 – Fire Fighting Measures

**Flash Point:** Nonflammable  
No Explosion Hazard

## Section 6 – Accidental Release Measures

No specialized clean up procedures needed

## Section 7 – Handling and Storage

**Handling:** Avoid sharp edges or heated material. Avoid dust particles when machining.

**Storage:** No special storage requirements

## Section 8 – Exposure Controls/Personal Protection

When machining – good ventilation is recommended to keep airborne concentration of dust and fumes at acceptable levels.

**Eye/Face Protection:** Wear safety glasses when cutting or grinding. Face shields when welding or burning.

**Respiratory Protection:** Wear NIOSH approved dust/mist/fume respirator when welding or burning.

**Hand Protection:** Wear gloves when handling sharp edges

**Other Protective Equipment:** Use appropriate protective clothing as required such as fire retardant clothes or aprons when welding or burning

## Section 9 – Physical and Chemical Properties

<b>Physical state</b>	Solid	<b>Flash Point</b>	NA
<b>Flammable limit</b>	NA	<b>Evaporation Rate</b>	NA
<b>Odor</b>	Odorless	<b>Flammability</b>	Nonflammable
<b>Odor threshold</b>	NA	<b>Explosive limits</b>	NA
<b>Vapor pressure</b>	NA	<b>Vapor density</b>	NA
<b>Vapor density</b>	NA	<b>Relative density</b>	7.86
<b>Melting point</b>	1530 C / 2786 F	<b>Partition coefficient</b>	No data
<b>Solubility</b>	Not Soluble	<b>Auto-ignition temp.</b>	No data
<b>Boiling Point</b>	NA	<b>Decomposition temp.</b>	No data

## Section 10 – Stability and Reactivity

**Stability:** Stable under normal storage conditions

**Hazardous Reaction Potential:** Will not occur

**Conditions to avoid:** None

**Hazardous decomposition products:** NA

**Incompatible Products:** Strong acids

## Section 11 – Toxicological Information

**Lethal Dose/ Concentration:** None established

**Mutagenicity:** NA

**Teratogenicity:** NA

**Reproductive effects:** NA

**Carcinogenic:** Not found to be carcinogenic by NTP, IARC, or OSHA in its present state.

(Note: fumes/dusts/mists from processing this material may be carcinogenic if inhaled over long periods of time)

## Section 12 – Ecological Information

No adverse ecological effects

## Section 13 – Disposal Considerations

**Waste Disposal:** Recycle scrap materials through scrap dealer. Dispose of non-cyclable material in accordance with local, state, and federal regulations.

## **Section 14 – Transport Information**

Not regulated – no special transport instructions

## **Section 15 – Regulatory Information**

This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200 however dusts and fumes from this product may be hazardous and require protection to comply with applicable federal, state and local laws and regulations.

## **Section 16 – Other information**

Prepared by Precision Marshall Steel Company. Revised February 2015 to align with HazCom 2012 (Globally Harmonized System of Classification) OSHA Appendix D of 29 CFR 1910.1200

Information included in the Safety Data Sheet is based on data provided from sources believed to be accurate. No warranty or guaranty of any kind is expressed or implied regarding the accuracy or correctness of this data.

The actual use of this product is beyond our control, and it is each employer's responsibility to assure the safety and health of their employees. Precision-Marshall Steel Company will not assume liability arising out of the use of this product by others