



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

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