

Safety Data Sheet (SDS / MSDS)

Tool Steel - Grade H13 / D2

Prepared in accordance with GHS Rev. 8 / OSHA HazCom 2012

SECTION 1: Identification

Product Name	Tool Steel - Grade H13 / D2
Recommended Use	Die-casting dies, extrusion/forging dies, plastic injection moulds (H13); blanking/forming dies, punches, shear blades (D2)
Manufacturer/ Supplier	Ochnology Solution Pvt. Ltd.
Address	B-153, Sector-4, Defence Colony, Dehradun, Uttarakhand, India - 248001
Contact	projects@ochnology.com, bd@ochnology.com +91 9286823642/43

SECTION 2: Hazards Identification

As supplied (round bar, flat bar, or block), Tool Steel H13/D2 is a manufactured article and is not classified as a hazardous substance or mixture under GHS/OSHA HazCom, since it does not release a hazardous substance under normal conditions of storage, handling, or use. This document is provided as a reference for hazards that may arise during secondary processing (machining, grinding, EDM, or heat treatment), which is outside the scope of the article as supplied.

GHS Classification:

Signal Word: Not applicable to the article as supplied. WARNING applies to fume/dust generated during machining, grinding, or heat treatment.

Hazard Statements:

- Not classified as hazardous in solid form as supplied.
- Machining/grinding dust and heat-treatment fume may cause respiratory irritation with prolonged/repeated exposure; D2's higher chromium content warrants particular attention during hot work.

Precautionary Statements:

- Use local exhaust ventilation or fume extraction during grinding, machining, or heat treatment.
- Wear appropriate respiratory protection during hot work or grinding operations, especially for D2 (higher Cr content).

SECTION 3: Composition / Information on Ingredients

Component	CAS No.	Approx. %
Iron (Fe)	7439-89-6	Balance
Carbon (C)	7440-44-0	H13: 0.32-0.45% D2: 1.40-1.60%
Chromium (Cr)	7440-47-3	H13: 4.75-5.50% D2: 11.00-13.00%
Molybdenum (Mo)	7439-98-7	H13: 1.10-1.75% D2: 0.70-1.20%
Vanadium (V)	7440-62-2	H13: 0.80-1.20% D2: 0.70-1.10%

SECTION 4: First-Aid Measures

- Inhalation (machining fume/grinding dust): Move to fresh air; seek medical attention if symptoms persist.
- Skin contact (sharp edges/swarf): Clean wound thoroughly; seek medical attention for deep cuts.
- Eye contact (grinding particulate): Flush with water; seek medical attention if irritation persists.

SECTION 5: Fire-Fighting Measures

- Non-combustible in solid bar/block form.
- Fine metal dust or grinding swarf may be combustible; use dry powder extinguishing media, not water, on metal dust fires.

SECTION 6: Accidental Release Measures

- Not applicable to solid bar/block.
- Collect metal fines/swarf generated during processing and handle per standard scrap metal procedures.

SECTION 7: Handling and Storage

- Store in a dry, covered area on dunnage to prevent surface corrosion.
- Use local exhaust ventilation and appropriate PPE during machining, grinding, EDM, or heat-treatment operations.
- Handle with care to avoid injury from sharp edges or swarf.

SECTION 8: Exposure Controls / Personal Protection

Exposure controls below apply to secondary processing operations (machining, grinding, heat treatment), not to the article as supplied.

- Metal dust/fume (total particulate): OSHA PEL 5 mg/m³ (welding/thermal fume, where applicable)
- Chromium compounds (particularly relevant to D2's higher Cr content): refer to OSHA 29 CFR 1910.1026 for hexavalent chromium controls during hot work
- Respiratory protection: fume extraction plus P100 respirator for grinding dust
- Eye protection: safety glasses or face shield as appropriate

SECTION 9: Physical and Chemical Properties

Appearance	Solid metal bar/block, grey/black mill finish
Odour	None
Melting Point	≈ 1420 - 1450°C
Density	≈ 7.7 - 7.8 g/cm ³
Solubility in Water	Insoluble

SECTION 10: Stability and Reactivity

- Stable under normal conditions of storage and use.
- Avoid prolonged exposure to moisture, which may cause surface corrosion.

SECTION 11: Toxicological Information

- No hazard from the solid bar/block under normal handling.

- Chronic inhalation of thermal/grinding fume containing chromium and other alloying elements is associated with respiratory effects; this is a secondary-processing consideration and does not apply to the article as supplied.

SECTION 12: Ecological Information

- Not expected to be hazardous to the environment as a solid metal article.
- Scrap and processing swarf should be recycled through standard metal recycling channels.

SECTION 13: Disposal Considerations

- Recycle as scrap metal wherever possible.
- Dispose of processing waste (swarf, grinding dust) per local regulations.

SECTION 14: Transport Information

Not classified as dangerous goods for transport.

SECTION 15: Regulatory Information

- Classified as a manufactured article under GHS/OSHA HazCom 2012 — not required to be accompanied by an SDS for the article itself.
- This document is provided as a courtesy reference addressing downstream (secondary processing) hazards only.

SECTION 16: Other Information

This SDS is provided for informational purposes regarding secondary processing (machining, grinding, EDM, heat treatment) hazards. The product, as supplied, is a solid metal article and is not classified as a hazardous substance or mixture under GHS.

Disclaimer: Information is provided as a general guide based on available data and is subject to revision without notice. Buyers/users should conduct their own risk assessment and confirm suitability for their specific process and application.