

Safety Data Sheet

Section 1: Identification

Product Identifier:

Hi-Alloy TSM, Hi-Alloy TSM Electrode

Recommended Use:

Filler metal for welding applications.

Manufacturer Information:

Inweld Corporation

3962 Portland St, Coplay, PA 18037

UNITED STATES

Phone: (800) 346-5368

Emergency Phone (CHEMTREC): (800) 424-9300

Section 2: Hazard(s) Identification

Classification:

- Skin irritation – Category 2
- Eye irritation – Category 2A
- Respiratory sensitization – Category 1
- Carcinogenicity – Category 1A
- Specific target organ toxicity – Single exposure (respiratory tract irritation) – Category 3
- Reproductive toxicity – Category 2

Signal Word:

DANGER

Hazard Statements:

- H315: Causes skin irritation
- H319: Causes serious eye irritation

- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H335: May cause respiratory irritation
- H350: May cause cancer
- H361: Suspected of damaging fertility or the unborn child

Precautionary Statements:

- P201: Obtain special instructions before use
- P202: Do not handle until all safety precautions have been read and understood
- P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P308+P313: IF exposed or concerned: Get medical advice/attention

GHS Pictograms:



Section 3: Composition/Information on Ingredients

Chemical Name CAS Number % by Weight

Iron	7439-89-6	Balance
Chromium (Cr)	7440-47-3	10–30%
Manganese (Mn)	7439-96-5	1–10%
Nickel (Ni)	7440-02-0	1–5%
Silicon (Si)	7440-21-3	<2%

Exact percentages may vary due to manufacturing tolerances.

Section 4: First-Aid Measures

Inhalation:

Move person to fresh air. Seek medical attention if breathing difficulties occur.

Skin Contact:

Wash with soap and water. Get medical attention if irritation develops or persists.

Eye Contact:

Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical attention.

Ingestion:

Not a likely route of exposure. If swallowed, seek medical help.

Most Important Symptoms/Effects:

Respiratory issues, skin and eye irritation, and potential allergic respiratory reactions.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media:

Use extinguishing agent suitable for surrounding fire.

Unsuitable Extinguishing Media:

None known.

Specific Hazards:

Welding fumes may contain harmful metal oxides.

Protective Equipment for Firefighters:

Wear full protective gear and NIOSH-approved self-contained breathing apparatus.

Section 6: Accidental Release Measures

Personal Precautions:

Avoid contact with skin and eyes. Use adequate ventilation. Avoid breathing dust or fumes.

Cleanup Methods:

Pick up solid material mechanically. Use appropriate PPE.

Section 7: Handling and Storage

Handling:

Use local exhaust ventilation. Do not eat, drink, or smoke while handling. Avoid breathing fumes.

Storage:

Store in a dry place. Keep container tightly closed when not in use.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits (OSHA PELs):

Component OSHA PEL (mg/m³) ACGIH TLV (mg/m³)

Chromium	1.0	0.5
Manganese	5.0 (Ceiling)	0.02 (respirable)
Nickel	1.0	1.5

Engineering Controls:

Use local exhaust ventilation during welding.

Personal Protective Equipment (PPE):

- Eye/Face: Safety goggles or face shield
- Skin: Protective gloves and clothing
- Respiratory: Use NIOSH-approved respirator during welding

Section 9: Physical and Chemical Properties

Property	Value
Appearance	Metallic solid
Odor	Odorless
Melting Point	>1400°C

Property	Value
Solubility	Insoluble
Flash Point	Not applicable
Flammability	Non-flammable

Section 10: Stability and Reactivity

Reactivity:

Stable under normal conditions.

Chemical Stability:

Stable.

Hazardous Reactions:

None known.

Conditions to Avoid:

Inhalation of welding fumes.

Incompatible Materials:

Strong acids or oxidizing agents.

Hazardous Decomposition Products:

Metal oxides, including chromium and manganese oxides, and nickel compounds.

Section 11: Toxicological Information

Likely Routes of Exposure:

Inhalation, eye and skin contact.

Symptoms:

Irritation to respiratory tract, eyes, and skin. Potential allergic respiratory effects.

Carcinogenicity:

Nickel and hexavalent chromium compounds are classified as carcinogenic by IARC and NTP.

Section 12: Ecological Information

Ecotoxicity:

Not classified as hazardous, but avoid environmental release.

Persistence/Degradability:

Not biodegradable.

Bioaccumulation:

Possible for heavy metals like nickel and chromium.

Section 13: Disposal Considerations

Dispose in accordance with federal, state, and local regulations. Avoid discharge to waterways.

Section 14: Transport Information

DOT Classification:

Not regulated as hazardous under DOT.

Section 15: Regulatory Information

OSHA HCS Status:

This material is hazardous according to OSHA Hazard Communication Standard.

TSCA:

All components are listed.

SARA Title III:

Section Chemical		Status
302	None	Not listed
311/312	Various metals	Acute, Chronic
313	Chromium, Nickel, Manganese Listed	

Section 16: Other Information



SDS Revision Date: July 2, 2025

Prepared By: Inweld Corporation – Regulatory Compliance