

Safety Data Sheet

Section 1: Identification

Product Identifier: Hi-Alloy 77

Other Means of Identification: Nickel Alloy Welding Electrode

Recommended Use: Welding filler metal

Restrictions on Use: Use only as directed in industrial welding applications

Manufacturer:

Inweld Corporation
3962 Portland St
Coplay, PA 18037
UNITED STATES

Telephone (General Information): (800) 346-5368

Emergency Telephone Number (CHEMTREC): (800) 424-9300

Section 2: Hazard(s) Identification

Classification (GHS):

- Carcinogenicity – Category 1A
- Specific target organ toxicity – Repeated exposure, Category 1 (lungs)
- Reproductive Toxicity – Category 2
- Acute toxicity (Inhalation) – Category 4
- Skin sensitization – Category 1
- Eye irritation – Category 2B

Signal Word: DANGER

Hazard Statements:

- H350: May cause cancer
- H372: Causes damage to lungs through prolonged or repeated exposure (inhalation)

- H361: Suspected of damaging fertility or the unborn child
- H332: Harmful if inhaled
- H317: May cause an allergic skin reaction
- H320: Causes eye irritation

Precautionary Statements:

- P201: Obtain special instructions before use
- P202: Do not handle until all safety precautions have been read and understood
- P260: Do not breathe dust/fume/gas/mist/vapors/spray
- P264: Wash thoroughly after handling
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P308+P313: IF exposed or concerned: Get medical advice/attention
- P314: Get medical advice/attention if you feel unwell
- P405: Store locked up
- P501: Dispose of contents/container in accordance with local/regional/national/international regulations

GHS Pictograms:



Section 3: Composition/Information on Ingredients

Chemical Name	CAS Number	% Weight
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Nickel (Ni)	7440-02-0	50–70%
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Chromium (Cr)	7440-47-3	10–20%
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Iron (Fe)	7439-89-6	5–15%
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Molybdenum (Mo)	7439-98-7	1–5%
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Chemical Name	CAS Number	% Weight
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Manganese (Mn)	7439-96-5	1–5%
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Silicon (Si)	7440-21-3	<1%
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Note: Specific exposure limits and hazards for each component should be reviewed per OSHA and ACGIH guidelines.

Section 4: First-Aid Measures

Inhalation: Move person to fresh air. If symptoms persist, seek medical attention.

Skin Contact: Wash thoroughly with soap and water. Remove contaminated clothing.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion: Not an expected route of exposure. If swallowed, seek medical advice immediately.

Most Important Symptoms: Respiratory irritation, metal fume fever, allergic reactions, skin/eye irritation, chronic lung effects with prolonged exposure.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: Use extinguishing media suitable for surrounding fire (dry chemical, CO₂, foam, water spray).

Specific Hazards: Welding arc and sparks can ignite combustibles. Decomposition may produce harmful metal oxide fumes.

Protective Equipment for Firefighters: Use self-contained breathing apparatus (SCBA) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions: Avoid breathing dust or fumes. Use adequate ventilation and personal protective equipment (PPE).

Methods for Cleaning Up: Sweep or vacuum spilled material. Avoid generating dust. Dispose of according to local regulations.

Section 7: Handling and Storage

Handling: Avoid contact with skin and eyes. Do not breathe dust, fumes, or gas. Use only in well-ventilated areas.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep container tightly closed.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits:

Substance	OSHA PEL	ACGIH TLV
Nickel	1 mg/m ³	1.5 mg/m ³
Chromium	1 mg/m ³	0.5 mg/m ³
Manganese	5 mg/m ³ (Ceiling)	0.02 mg/m ³ (respirable)

Engineering Controls: Use local exhaust ventilation to keep exposure levels below limits.

Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles or face shield
- **Skin Protection:** Wear protective gloves and clothing
- **Respiratory Protection:** Use NIOSH-approved respirators when ventilation is inadequate

Section 9: Physical and Chemical Properties

Property	Value
Appearance	Metallic rod
Odor	Odorless
Odor Threshold	Not applicable
pH	Not applicable
Melting Point	>1200°C (approx.)

Property	Value
Boiling Point	Not applicable
Flash Point	Not applicable
Flammability	Not flammable
Vapor Pressure	Not applicable
Solubility in Water	Insoluble
Density	Approx. 8 g/cm ³

Section 10: Stability and Reactivity

Reactivity: Stable under normal conditions

Chemical Stability: Stable

Hazardous Reactions: None under normal processing

Incompatible Materials: Strong acids and oxidizing agents

Hazardous Decomposition Products: Metal oxides, nickel oxides, chromium compounds

Section 11: Toxicological Information

Likely Routes of Exposure: Inhalation, skin, eyes

Symptoms: Irritation of respiratory tract, allergic skin reactions, metal fume fever

Chronic Effects: Lung damage, cancer, reproductive toxicity

Carcinogenicity:

- Nickel – IARC Group 1 (Carcinogenic to humans)
- Chromium (VI) – IARC Group 1

Section 12: Ecological Information

Ecotoxicity: Harmful to aquatic life with long lasting effects

Persistence and Degradability: Not readily biodegradable

Bioaccumulative Potential: May accumulate in aquatic organisms

Mobility in Soil: Low

Section 13: Disposal Considerations

Dispose of material in accordance with federal, state, and local regulations. Avoid release to the environment.

Section 14: Transport Information

DOT Classification: Not regulated

IMDG/IATA: Not classified as hazardous

Section 15: Regulatory Information

TSCA: All components listed or exempt

SARA 313: Nickel, Chromium, Manganese – subject to reporting

California Proposition 65: WARNING: This product can expose you to chemicals including Nickel and Chromium, which are known to the State of California to cause cancer.

Section 16: Other Information

Date of Preparation: July 2, 2025

Version: 1.0

Disclaimer: The information provided in this SDS is based on sources believed to be accurate. However, it is the user's responsibility to determine the suitability of this information for their purposes and to comply with all applicable laws and regulations.