

Safety Data Sheet

Section 1: Identification

Product identifier

350HT, 600HT, 700HT

Other means of identification

Hardfacing flux-cored welding wire; hardfacing filler metal; welding consumable.

Recommended use

Welding, hardfacing, build-up, repair welding, and related metalworking processes.

Restrictions on use

For intended welding and metalworking applications only. Do not use without adequate ventilation and appropriate welding PPE.

Manufacturer

Inweld Corporation

3962 Portland St
Coplay, PA 18037
UNITED STATES

Telephone: (800) 346-5368

Emergency telephone number

CHEMTREC: (800) 424-9300

Section 2: Hazard(s) Identification

Classification of the chemical

Draft GHS/OSHA classification for welding-use exposure:

- Carcinogenicity — Category 1B*
- Specific Target Organ Toxicity — Repeated Exposure — Category 1*

- Specific Target Organ Toxicity — Single Exposure — Category 3, respiratory tract irritation*
- Eye irritation — Category 2B*
- Hazardous fumes and gases may be generated during welding, cutting, grinding, or other thermal processes.

GHS pictograms



Signal word

DANGER

Hazard statements

- **H350:** May cause cancer.
- **H335:** May cause respiratory irritation.
- **H372:** Causes damage to organs through prolonged or repeated exposure.
- Welding fumes and gases may be harmful if inhaled.
- Welding arcs produce intense ultraviolet and infrared radiation capable of causing eye and skin injury.
- Molten metal, sparks, and hot workpieces can cause severe thermal burns.
- Welding operations may produce hazardous gases and metal oxides, including manganese compounds and, depending on alloy and process, chromium(VI) compounds.

Precautionary statements

Prevention

- Obtain special instructions before use where required.
- Do not breathe welding fumes, dust, or gases.
- Use local exhaust ventilation at the welding arc.
- Keep your head out of the welding-fume plume.

- Use only outdoors or in a well-ventilated area where appropriate.
- Wear protective gloves, protective clothing, eye protection, and welding helmet/face protection.
- Use respiratory protection when required by exposure assessment or when engineering controls are insufficient.
- Wash thoroughly after handling.
- Do not eat, drink, or smoke while using this product.

Response

- **IF INHALED:** Move person to fresh air and keep comfortable for breathing.
- If respiratory symptoms persist or breathing is difficult, obtain medical attention.
- **IF exposed or concerned:** Get medical advice/attention.
- For burns, cool affected area with clean, cool water and obtain medical attention as appropriate.
- For eye injury or suspected arc flash, obtain medical evaluation.

Storage

- Store in a cool, dry, well-ventilated location.
- Keep containers/packages closed when not in use.
- Keep away from incompatible materials.

Disposal

- Dispose of material and residues in accordance with applicable federal, state, and local regulations.

Hazards not otherwise classified

Welding operations can produce additional hazards not associated with the unopened solid wire, including:

- Electric shock.
- Arc radiation.

- Sparks and flying particles.
- Hot and molten metal.
- Fire hazards.
- Welding fumes and gases.
- Fumes from coatings, paints, oils, or contaminants on base metals.

Section 3: Composition/Information On Ingredients

3.1 — 350HT

Element	Composition
Carbon (C)	0.50%
Chromium (Cr)	0.5–3.0%
Nickel (Ni)	—
Molybdenum (Mo)	2.0%
Manganese (Mn)	0.5–3.0%
Silicon (Si)	0.25–2.0%
Vanadium (V)	—
Tungsten (W)	—
Iron (Fe)	Balance

3.2 — 600HT

Element	Composition
Carbon (C)	1.5%
Chromium (Cr)	3.0–10.0%
Nickel (Ni)	0.3–3.5%

Element	Composition
---------	-------------

Molybdenum (Mo)	—
-----------------	---

Manganese (Mn)	0.25–3.5%
----------------	-----------

Silicon (Si)	1.0–3.5%
--------------	----------

Vanadium (V)	2.0%
--------------	------

Tungsten (W)	4.0%
--------------	------

Iron (Fe)	Balance
-----------	---------

3.3 — 700HT

Element	Composition
---------	-------------

Carbon (C)	1.5%
------------	------

Chromium (Cr)	1.0–10.0%
---------------	-----------

Nickel (Ni)	0.25–4.0%
-------------	-----------

Molybdenum (Mo)	—
-----------------	---

Manganese (Mn)	0.20–3.0%
----------------	-----------

Silicon (Si)	0.2–3.0%
--------------	----------

Vanadium (V)	2.0%
--------------	------

Tungsten (W)	4.0%
--------------	------

Iron (Fe)	Balance
-----------	---------

3.4 — Reported flux-core constituents

Ingredient	CAS No.	Reported amount
------------	---------	-----------------

Calcium Carbonate	1317-65-3	<2.5%
-------------------	-----------	-------

Calcium Fluoride	7789-75-5	<6.0%
------------------	-----------	-------

Ingredient	CAS No.	Reported amount
Mica	12001-26-2	<6.0%
Feldspar	68476-25-5	<2.5%
Quartz / silica fume*	14808-60-7 / 69012-64-2	<1.0%
Bentonite	1302-78-9	<2.0%
Potassium Silicate	1312-76-1	<2.0%
Sodium Silicate	1344-09-8	<2.0%
Titanium Dioxide	13463-67-7	<5.0%
Potassium Oxide	12136-45-7	<2.0%

Potential welding-fume constituents: iron oxides, manganese oxides, chromium oxides and potentially Cr(VI), nickel compounds, fluorides, carbon monoxide, nitrogen oxides, ozone, and other metal oxides. Actual fume composition depends upon the wire, base metal, welding process, shielding gas, coatings, and ventilation.

OSHA Appendix D requires chemical names, CAS/unique identifiers, and applicable concentrations or concentration ranges for hazardous ingredients in mixtures, subject to the HCS rules and any valid trade-secret provisions.

Section 4: First-Aid Measures

Inhalation

Move affected person to fresh air. Keep comfortable for breathing. If breathing is difficult, seek immediate medical attention.

Skin contact

For contact with welding fumes or particulate, wash thoroughly with soap and water. For burns from hot metal or welding operations, cool the affected area with clean, cool water. Seek medical attention for significant burns.

Eye contact

For particulate or fume exposure, flush cautiously with water for at least 15 minutes. For suspected arc-flash injury, obtain immediate medical evaluation.

Ingestion

Rinse mouth. Do not induce vomiting unless directed by medical personnel. Seek medical attention if symptoms occur.

Most important symptoms/effects

- Respiratory irritation.
- Coughing.
- Throat and nasal irritation.
- Headache, dizziness, nausea, or metal-fume-fever-like symptoms.
- Eye irritation.
- Potential delayed effects from repeated exposure to welding fumes.
- Thermal burns and eye injury from welding operations.

Immediate medical attention

Seek medical attention for difficulty breathing, significant burns, suspected arc-flash injury, or persistent respiratory symptoms.

Section 5: Fire-Fighting Measures

Suitable extinguishing media

Use extinguishing media appropriate for the surrounding fire.

Unsuitable extinguishing media

No specific extinguishing medium is known to be unsuitable for the solid product. Consider surrounding combustible materials.

Specific hazards

The solid wire is not expected to be readily flammable under normal storage conditions. Welding arcs, sparks, molten metal, and hot surfaces can ignite combustible materials.

Welding may generate metal oxides and hazardous gases.

Firefighter protection

Wear full protective equipment and positive-pressure self-contained breathing apparatus where fumes or combustion products may be present.

Section 6: Accidental Release Measures

Personal precautions

Avoid generating airborne dust or particulate. Wear appropriate PPE.

Emergency procedures

For solid wire, no special emergency procedure is normally required beyond ordinary material-handling precautions.

Containment and cleanup

Collect solid wire mechanically. Place in suitable container for reuse or metal recycling.

For grinding dust or other airborne particulate, use appropriate industrial housekeeping methods and avoid creating additional dust.

Environmental precautions

Prevent uncontrolled discharge of metal-containing residues into drains, soil, or waterways.

Section 7: Handling And Storage

Precautions for safe handling

- Use appropriate welding PPE.
- Avoid inhalation of welding fumes.
- Use local exhaust ventilation.
- Keep face and breathing zone out of the welding plume.
- Do not eat, drink, or smoke during handling.
- Wash hands after handling.

- Do not weld on contaminated, painted, plated, or coated materials without appropriate controls.

Storage

- Store in a cool, dry area.
- Keep containers/packages closed when not in use.
- Protect from moisture.
- Maintain adequate ventilation.
- Store away from strong acids, strong oxidizers, and halogens.

Section 8: Exposure Controls/Personal Protection

Engineering controls

Use local exhaust ventilation at the welding arc to capture fumes at their source.

Provide general ventilation sufficient to prevent accumulation of welding fumes and gases.

Do not position the worker's breathing zone directly in the welding plume.

Occupational exposure limits

Applicable limits depend on the actual constituent, chemical form, and welding process. Examples include:

Constituent	OSHA / applicable limit considerations
--------------------	---

Iron oxide fume	OSHA PEL commonly cited at 10 mg/m ³
-----------------	---

Manganese	OSHA limit applies; substantially lower ACGIH guidance may also apply
-----------	---

Chromium	OSHA PEL applies to chromium metal; Cr(VI) compounds have substantially lower limits
----------	--

Nickel	OSHA PEL applies; applicable limits depend on chemical form
--------	---

Calcium fluoride	OSHA/ACGIH exposure limits may apply
------------------	--------------------------------------

Constituent OSHA / applicable limit considerations

Welding fumes Exposure must be controlled based on the individual constituents generated

Important: Current applicable OSHA PELs, ACGIH TLVs, and any state/local limits must be confirmed for the specific chemical form and workplace exposure assessment.

Personal protective equipment

Eyes/face:

Welding helmet with appropriate filter shade; safety glasses with side protection.

Hands:

Welding gloves appropriate for the welding process.

Body:

Flame-resistant welding jacket/clothing, protective trousers, and appropriate safety footwear.

Respiratory:

Use a NIOSH-approved respirator selected according to the employer's exposure assessment and respiratory-protection program when engineering controls do not adequately control exposure.

Hygiene:

Wash hands and exposed skin after handling.

Section 9: Physical And Chemical Properties

Property	Information
Physical state	Solid
Appearance	Silver/gray welding wire with flux core
Odor	Odorless as supplied
Odor threshold	No data available
pH	Not applicable

Property	Information
Melting point/freezing point	Alloy/process dependent; no product-specific value established
Initial boiling point	Not applicable
Flash point	Not applicable to solid wire as supplied
Flammability	Not expected to be flammable as supplied
Vapor pressure	Not applicable
Relative density	No product-specific data available
Solubility	Generally insoluble as solid wire
Partition coefficient	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
Viscosity	Not applicable

Section 10: Stability And Reactivity

Reactivity

No hazardous reaction expected under normal storage and handling conditions.

Chemical stability

Stable under recommended storage and handling conditions.

Possibility of hazardous reactions

No hazardous polymerization expected.

Conditions to avoid

Excessive heat, uncontrolled welding fumes, sparks, and contact with incompatible materials.

Incompatible materials

- Strong acids.
- Strong oxidizing agents.
- Halogens.

Hazardous decomposition products

Depending on welding process and conditions:

- Iron oxides.
- Manganese oxides.
- Chromium oxides.
- Potential hexavalent chromium compounds.
- Nickel compounds.
- Fluorides.
- Carbon monoxide.
- Nitrogen oxides.
- Ozone.
- Other complex metal oxides.

Section 11: Toxicological Information

Likely routes of exposure

- Inhalation.
- Eye contact.
- Skin contact.
- Ingestion is not an expected occupational exposure route but should be prevented.

Acute effects

Exposure to welding fumes may cause:

- Nose and throat irritation.
- Coughing.
- Headache.
- Dizziness.
- Nausea.
- Metal-fume-fever-like symptoms.
- Eye irritation.

Arc radiation may cause eye and skin injury.

Chronic effects

Repeated overexposure to certain welding-fume constituents may cause respiratory, neurological, or other target-organ effects.

Manganese overexposure may affect the nervous system.

Certain chromium(VI) and nickel compounds are recognized carcinogenic hazards.

Carcinogenicity

Certain chromium(VI) compounds and nickel compounds are recognized carcinogenic substances by authoritative occupational-health agencies. Welding fumes as a category have also been identified as carcinogenic by IARC.

The actual carcinogenic hazard associated with a particular welding operation depends on the alloy, process, base metal, coatings, fume composition, and exposure level.

Numerical toxicity information

Product-specific acute toxicity data are not available for this draft.

NTP / IARC / OSHA considerations

Certain constituents potentially present in welding fumes are listed or evaluated by NTP, IARC, or OSHA as carcinogenic hazards.

Section 12: Ecological Information

Ecotoxicity

No data available.

Persistence and degradability

Not applicable to the solid metallic product; no product-specific data available.

Bioaccumulative potential

No product-specific data available.

Mobility in soil

Expected to be low for the solid metallic product.

Other adverse effects

Avoid uncontrolled environmental release of metal-containing residues and welding/grinding dust.

Section 13: Disposal Considerations

Dispose of unused product, residues, grinding dust, and contaminated materials in accordance with applicable federal, state, and local regulations.

Clean metal wire may be suitable for recycling as metal scrap.

Do not discharge metal-containing residues into drains or waterways.

The generator is responsible for determining whether waste is hazardous under applicable regulations.

Section 14: Transport Information

U.S. DOT

UN number: Not assigned / not regulated based on available information.

Proper shipping name: Welding wire / metal filler material.

Transport hazard class: Not regulated as a hazardous material when shipped as solid welding wire under normal conditions.

Packing group: Not applicable.

Marine pollutant: Not determined to be a marine pollutant as supplied.

Special precautions: Protect packages from physical damage and moisture.

Transportation classification should be confirmed for the actual product, packaging configuration, quantity, and mode of transportation.

Section 15: Regulatory Information

U.S. Federal

OSHA:

29 CFR 1910.1200 — Hazard Communication Standard.

SARA / EPCRA:

Applicable reporting requirements should be evaluated based on the actual concentrations of regulated constituents in each product.

TSCA:

Applicable chemical constituents should be verified against current TSCA inventory requirements.

State regulations

State-specific requirements, including California Proposition 65 where applicable, should be evaluated based on the actual formulation and exposure generated during use.

Section 16: Other Information

Preparation date

September 24, 2026

SDS preparation statement

This SDS draft has been structured to follow the OSHA Hazard Communication Standard, 29 CFR 1910.1200(g), including the required 16-section sequence. OSHA specifically requires the SDS to contain the prescribed section headings and associated information,

and requires the information to accurately reflect the scientific evidence used for the hazard classification.