

**Material Safety Data Sheet**  
**Filler Metals and Welding Rods**

Product Trade Name/Product Classification(s): **GOUGING CARBONS**

"ESSENTIALLY SIMILAR" to U.S. Department of Labor Form OSHA 20 (to comply with OSHA's Hazard Communication Standard 29 CFR 1910, 1200)

<p align="center"><b>SECTION 1: Identification</b></p> <p>SUPPLIER: Inweld Corporation Phone: 1-800-346-5368 Revised: May 2005 Address: 3962 Portland St., Coplay, PA 18037</p> <p align="center">Product Trade Name/Product Classification(s): <b>GOUGING CARBONS</b></p>	<p align="center"><b>SECTION 2: Hazardous Ingredients/Identity Info.</b></p> <p>IMPORTANT: THE MATERIALS LISTED ARE WHAT IS REASONABLY EXPECTED TO EXIST IN THE FUMES WHEN PRODUCT IS USED IN WELDING. THE TERM "HAZARDOUS" SHOULD BE INTERPRETED AS A TERM REQUIRED AND DEFINED IN OSHA HAZARD COMMUNICATION STANDARD (29 C.F.R. 1910.1200) AND IT DOES NOT NECESSARILY IMPLY THE EXISTENCE OF ANY HAZARD.</p> <table border="1"> <thead> <tr> <th rowspan="2">Flux or other ingredients</th> <th rowspan="2">CAS No.</th> <th colspan="2">Exposure Limit (mg/m<sup>3</sup>)</th> </tr> <tr> <th>OSHA PEL</th> <th>ACGIH TLV</th> </tr> </thead> <tbody> <tr> <td>Carbon (C)</td> <td>7440-44-0</td> <td>3.5</td> <td>3/7/17**</td> </tr> <tr> <td>Graphite</td> <td>7782-42-5</td> <td>2.5 R</td> <td>2 R</td> </tr> <tr> <td>Copper (Cu)<sup>a,c</sup></td> <td>7440-50-8</td> <td>0.1 F/1 T</td> <td>0.1 F/1 T</td> </tr> </tbody> </table> <p><sup>a</sup> = Exposure limits for oxides, dust, fume and mists where applicable R = Respirable fraction T=Total dust ** = Short term exposure limit <sup>c</sup> = "WARNING: This product contains or produces a chemical known to the State of California to cause cancer or birth defects (or other reproductive harm). (California Health and Safety Code § 25249.5 et seq.)"</p>	Flux or other ingredients	CAS No.	Exposure Limit (mg/m <sup>3</sup> )		OSHA PEL	ACGIH TLV	Carbon (C)	7440-44-0	3.5	3/7/17**	Graphite	7782-42-5	2.5 R	2 R	Copper (Cu) <sup>a,c</sup>	7440-50-8	0.1 F/1 T	0.1 F/1 T
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<p align="center"><b>SECTION 3: Physical Properties</b></p> <p>Welding consumables applicable to this sheet as shipped, consist of odorless, solid rods, which have a metallic luster. As shipped, these products are nonflammable, non-explosive, non-reactive, and non-hazardous.</p>																			
<p align="center"><b>SECTION 4: Fire and Explosion Hazard Data</b></p> <p>These items are not reactive, flammable, or explosive and essentially not hazardous at ambient temperatures. Welding arcs and sparks can ignite combustibles and flammable products. If involved in a fire, these products may generate irritating aluminum fumes and a variety of metal oxides. Emergency responders must wear personal protection equipment suitable for the situation. Use the extinguishing media recommended for the burning materials and fire situation. See ANSI Z49.1 "Safety in Welding and Cutting" and "Safe Practices" Code: SP, published by the American Welding Society, P.O.</p>	<p align="center"><b>SECTION 6: Health Hazard Data</b></p> <p>Welding fumes and gases can be dangerous to your health. Electric shock can kill you. Arc rays can injure eyes and burn skin. Noise can damage hearing.</p> <p><b>Route of overexposure:</b> The primary route of entry of the decomposition is by inhalation. Skin contact, eye contact, and ingestion are possible.</p> <p><b>Effects of Acute (Short-Term) Overexposure:</b> Short-term (acute) overexposure to the gases, fumes, and dusts may include irritation of the eyes, lungs, nose, and throat. Some toxic gases associated with welding may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty in breathing, frequent coughing, or chest pain. The presence of chromium/chromate in fume can cause irritation of nasal membranes and skin. The presence of nickel compounds in fume can cause metallic taste, nausea, tightness of chest, fever, and allergic reaction.</p> <p><b>Pre-existing Medical Conditions aggravated by Overexposure:</b> Individuals with allergies or impaired respiratory function may have symptoms worsened by exposure to welding fumes.</p> <p><b>Effects of Chronic (Long-Term) Overexposure:</b> Long-term (Chronic) overexposure to air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest X-rays. The severity of the change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on X-rays may be caused by non-work factors such as smoking, etc. Nickel and chromium are considered carcinogenic. Long-term overexposure to nickel fumes may also cause pulmonary fibrosis and edema. Overexposure to manganese compounds may affect the central nervous system, symptoms of which are languor, sleepiness, muscular weakness, emotional disturbances, and spastic gait.</p> <p><b>Carcinogenic Assessment (NTP Annual Report, IARC Monographs, Other):</b> Nickel and Chromium must be considered possible carcinogens under OSHA (29CFR1910.1200). IARC has indicated Nickel, Chromium and certain of their compounds are probably carcinogenic for humans. Exposure levels must be kept below those levels specified in Section 2.</p> <p><b>Warning:</b> This product contains or produces a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health and Safety Code § 25249.5 et seq.)</p>																		
<p align="center"><b>SECTION 5: Reactivity Data</b></p> <p><b>HAZARDOUS DECOMPOSITION PRODUCTS:</b> Welding gases cannot be classified simply. Their composition and quantities are dependent upon the metal being welded, the process, the procedures, and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), number of welds and volume of work area, quality and amount of ventilation, position of welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). The primary route of entry of welding fumes and gases is by inhalation.</p> <p>When the electrode is consumed, the fume and gas decomposition products are different in percentage and form from the ingredients listed in Section 2. Fume and gas decomposition, and not the ingredients in the electrode, are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration. Also, new compounds not in the electrodes may form. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in Section 2, plus those from the base metal coating, etc., as noted above.</p> <p>Reasonable expected fume constituents of this product would include: Complex oxides of iron, chromium, nickel, carbon dioxide, carbon monoxide, and nitrogen oxides. Fume limit for nickel may be reached before the limit of 5mg/m<sup>3</sup> of general welding fumes is reached.</p> <p><b>Most welding, even with primitive ventilation, does not produce exposures within the welding helmet above 5mg/m<sup>3</sup>. That which does should be controlled.</b></p>																			
<p align="center"><b>SECTION 7: Precautions For Safe Handling And Use/Applicable Control Measures</b></p> <p>Read and understand the manufacturer's instructions and the precautionary label on this product. See American National Standard Z-49.1, Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 354140, Miami, FL 33135 and OSHA Publication 2206 (29 C.R.F. 1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail.</p> <p><b>VENTILATION:</b> Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the TLV'S in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.</p> <p><b>RESPIRATORY PROTECTION:</b> Use respirable fume respirator or air supplies respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV.</p> <p><b>EYE PROTECTION:</b> Wear helmet or use face shield with filter lens. As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to the next lighter shade that gives sufficient view of the weld zone. Provide protective screens and flash goggles, if necessary, to shield others.</p> <p><b>PROTECTIVE CLOTHING:</b> Wear head, hand, and body protection that help to prevent injury from radiation, sparks and electrical shock. See ANSI Z-49.1. At a minimum, this includes welder's gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.</p> <p><b>PROCEDURE FOR CLEANING OF SPILLS OR LEAKS:</b> Not applicable.</p> <p><b>WASTE DISPOSAL METHOD:</b> Prevent waste from contaminating surrounding environment. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with Federal, State, and Local regulations.</p>	<p align="center"><b>SECTION 8: DISCLAIMER</b></p> <p>ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF THE INFORMATION HEREIN, INWELD EXTENDS NO WARRANTIES, EXPRESS OR IMPLIED, MAKES NO REPRESENTATIONS AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF INFORMATION FOR APPLICATION TO PURCHASER'S INTENDED PURPOSE OR FOR CONSEQUENCES OF ITS USE. JUDGMENTS AS TO THE SUITABILITY OF INFORMATION FOR PURCHASER'S PURPOSES ARE PURCHASER'S RESPONSIBILITY.</p>																		