


**Ni-93 Nickel Alloy  
 Brazing Filler Metal Rod**

**Section 1: Identification**

Product Name:	<b>Ni-93 Nickel Brazing Alloys</b>		
SDS Issue Date:	December 12, 2018		
Synonyms:	AWS A5.8 BNi-4 rod, AMS 4779 rod		
CAS Number(s):	See section 3.		
Product Usage:	<b>Brazing Filler Metal Rod for Joining or Surfacing Applications</b>		
Supplier/ Manufacturer:	<b>Aufhauser Corporation 39 West Mall Plainview, NY 11803</b>	Phone: Fax: E-Mail: Web Site:	<b>516-694-8696 212-246-0158 <a href="mailto:sales@brazing.com">sales@brazing.com</a> <a href="http://www.brazing.com">www.brazing.com</a></b>
Emergency Numbers:	212-246-9420 or 911 800-424-9300 703-527-3887		

**Section 2: Hazard(s) Identification**

Health – Environmental – Physical		
Respiratory and Skin Sensitization	GHS Category 1	 <b>Danger</b>
Target Organ Systemic Toxicity (single exposure)	GHS Category 2 (respiratory apparatus, kidney)	
Target Organ Systemic Toxicity (repeated exposure)	GHS Category 1 (respiratory apparatus)	
Carcinogenicity	GHS Category 2 (suspected of causing cancer)	
Aquatic Toxicity (chronic)	Category 4 (may cause long lasting harmful effects to aquatic life)	
<b>This product is intended for industrial use by trained individuals. Keep away from children.</b>		

**Section 3: Composition / Information on Ingredients**

Components of mixture*	CAS Number	Weight percentage**
Nickel	7440-02-0	60 – 100
Boron	7440-42-8	1 – 5
Silicon	7440-21-3	1 – 5

\* This material is a homogenous metallic alloy of the components listed above.

\*\* This is a general reporting range and is not a product specification.

**Exposure limits:** See Section 8.

**Section 4: First Aid Measures**

<b>Exposure Route</b>	<b>Acute</b>	<b>Chronic (delayed)</b>
Eye contact	Eye irritation. Flush with water for 15 minutes or until all particles are removed.	If irritation persists seek medical attention.
Skin contact	Itching, irritation or rash. Remove contaminated clothing. Wash skin with mild soap and water.	If irritation or rash persists seek medical attention.
Inhalation	Difficulty breathing, coughing, metal fume fever. Remove exposed person to fresh air. If not breathing administer CPR.	If symptoms persist seek medical attention.
Ingestion	Rinse mouth. If large amount, induce vomiting. Seek medical advice.	Seek medical attention.

**Never give anything by mouth to an unconscious person. Treat symptomatically and supportively.**

**Section 5: Firefighting Measures**

**Suitable Extinguishing Media:** Material is not readily combustible. Do not use water on metal fires, use dry chemical, dry sand or carbon dioxide to smother fire.

**Specific Hazards during a Fire:** Material may break down in fire and may produce toxic decomposition products associated with ingredients. Extreme oxidizing conditions may cause formation of metal oxides. These oxides may be carcinogens.

**Protective Equipment:** SCBA and full protective gear is recommended for fire fighting.

**Section 6: Accidental Release Measures**

- Stay out of spill, floor may be slippery.
- Wear PPE: Respirator and Safety Goggles.
- Pick up pieces (rods) or take up small/broken pieces with damp sweeping compound or vacuum. Vacuum should be equipped with HEPA filter on exhaust. Transfer into disposal container(s). Dispose by recycling.

**Section 7: Handling and Storage**

- General and/or point ventilation system with dust collection is recommended to ensure exposure do airborne dust is maintained below allowable exposure limits.
- Wear PPE such as work gloves (or welders gloves), safety glasses/goggles. Respiratory protection is recommended, but is required only when exposure limits are be exceeded.
- Wash hands after use before eating or smoking.
- Do not eat or smoke in area where material is being used.
- Store in closed container. For best results, keep product above the ambient dew point temperature.
- Not a shelf life limited material.

**Section 8: Exposure Controls / Personal Protection**

<b>Exposure Limits:</b>			
<b>Components of mixture</b>	<b>CAS Number</b>	<b>OSHA PEL</b>	<b>ACGIH TLV</b>
Nickel	7440-02-0	1.0 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>
Boron	7440-42-8	15 mg/m <sup>3</sup> (5 mg/m <sup>3</sup> respirable)	10 mg/m <sup>3</sup> as boron oxide
Silicon	7440-21-3	15 mg/m <sup>3</sup> (5 mg/m <sup>3</sup> respirable)	Not listed

**Engineering Controls:**

- Local exhaust ventilation may be necessary to control air contaminants to their exposure limits.
- Provide mechanical ventilation for confined spaces or if method of use warrants.

**Personal Protective Equipment:**

- Gloves – work gloves or non-permeable gloves such as vinyl or latex.
- Eyes – safety glasses/goggles or face shield.
- Clothing – Cover-all, lab coat or normal work clothing.
- Respirator – NIOSH N-95 or N-100 filtering face-piece (dust mask) or equivalent alternative is recommended for up to 10 times the exposure limits.

**Section 9: Physical and Chemical Properties**

Physical State	Sintered or cast rods
Odor	None
Odor Threshold	Not available
PH	Not applicable
Melting Point / Freezing Point	>1500°F (>815°C)
Boiling Point	>3000°F (>1648°C)
Flash Point	None
Evaporation Rate (butyl acetate =1)	None
Flammability	Not applicable
LFL (LEL) lower flammability (explosive) limit	Not applicable
UFL (UEL) upper flammability (explosive) limit	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Specific Gravity (Bulk Density)	>5 g/cc
Solubility	Not water soluble
Partition Coefficient (n-octanol/water)	Not available
Autoignition Temperature	Not available
Decomposition Temperature	Not available
% VOC's	0%

**Section 10: Stability and Reactivity**

- **Chemical Stability:** This material is stable.
- **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- **Conditions to Avoid:** None
- **Incompatible Materials:** Strong acids and/or oxidizers.
- **Hazardous Decomposition Products:** Intense heat may produce carbon monoxide and/or carbon dioxide and oxidizing conditions may produce oxides of the ingredients shown in Section 3. Oxides of these ingredients may be carcinogenic.

**Section 11: Toxicological Information**

**Likely Routes of Exposure:** Skin contact, inhalation of dust.

**Skin Contact:** May cause sensitivity, dermatitis or allergic reaction.  
Contact toxicity data not available. GHS Category 1

**Inhalation of Dust:** Prolonged inhalation of dust may cause pulmonary irritation, asthma, coughing, shortness of breath.

**Ingestion of Dust or powder:** Oral toxicity based on ingredients, falls outside of GHS classification range.

Ingredient Name	Oral Toxicity (LD50)	Inhalation Toxicity (LC50)
Nickel (metallic)	Oral rat LDLo 5,000 mg/kg	*
Boron	Oral rat 650 mg/kg	*
Silicon	Oral rat 3,160 mg/kg	*

\*Toxicity data not available.

**Carcinogenicity:** GHS Category 2

Ingredient Name	NTP Status		IARC Category	OSHA	CA Prop. 65*
	Known	Anticipated			
Nickel (metallic)	No	Yes	2B	No	Yes
Boron	No	No	None	No	No
Silicon	No	No	None	No	No

\*This product contains a chemical known to the State of California to cause cancer.

**Section 12: Ecological Information**

- **Aquatic Toxicity:** Acute - None, Chronic - GHS Category 4

**Section 13: Disposal Consideration**

- Material should be recycled to reclaim scrap metal value.
- If recycling is not possible dispose of in accordance with local, state, and federal regulations for industrial wastes of this form.

**Section 14: Transport Information**

DOT Classification	Not regulated
UN Identification Number	Not regulated
DOT Shipping Description	Not applicable

**Section 15: Regulatory Information**

Toxic Substances Control Act (TSCA)	All ingredients are listed on the TSCA inventory of chemical substances.
Superfund Amendments & Reauthorization Act (SARA)	This product contains Nickel.
Resource Conservation & Recovery Act (RCRA)	This material is not a hazardous waste. It is Recyclable.
RoHS & REACH	None


**Hazard Codification & Labeling Requirements**

- H317 – May cause an allergic skin reaction (nickel).
- H351 – Suspected of causing cancer (nickel).
- H371 – Target organ (acute), respiratory apparatus, kidney.
- H372 – Target organ (chronic), respiratory apparatus.

**Section 16: Other Information**

<b>NFPA Numbers (estimated)</b>	<b>Health: 2</b>	<b>Flammability: 0</b>	<b>Reactivity: 0</b>
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**WHMIS Category: Class D, Division 2: Nickel**



The information supplied herein follows the guidelines of WHMIS, GHS and OSHA Hazard Communication Standard 29 CFR 1910.1200, and to the best of our knowledge, is accurate and complete. The recommended hygiene and handling practices are believed to be appropriate for the use of this material. However, it is up to the end user to review this information and establish their own procedures and guidelines, based upon their particular application(s). Aufhauser Corporation assumes no responsibility for damage or injury resulting from the end use of this product.