

Nickel or Gold Plated Molybdenum Strip

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 04/16/14

Version: 1.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product Identifier

Product Form: Article

Product Name: Nickel or Gold Plated Molybdenum Strip

1.2. Intended Use of the Product

Use of the Substance/Mixture: Soldering and brazing

1.3. Name, Address, and Telephone of the Responsible Party

Ametek Specialty Metal

21 Toelles Road

Wallingford, CT 06492

T 203-265-6731

www.ametek.com

1.4. Emergency Telephone Number

Emergency Number : 800-424-9300 CHEMTREC US / 001-703-527-3887 CHEMTREC Intl.

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

2.2. Label Elements

GHS-US Labeling

Not classified

2.3. Other Hazards

No additional information available

2.4. Unknown Acute Toxicity (GHS-US):

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product Identifier	%	Classification (GHS-US)
Molybdenum	(CAS No) 7439-98-7	98 - 99.9	Flam. Sol. 2, H228 Repr. 2, H361
Gold	(CAS No) 7440-57-5	0.1 - 1	Not classified
Nickel	(CAS No) 7440-02-0	0.1 - 1	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 3, H412

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area.

First-aid Measures After Skin Contact: Removal of solidified molten material from skin requires medical assistance. Cool skin rapidly with cold water after contact with molten product.

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

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting.

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4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Under normal conditions of use not expected to present a significant hazard. Under milling, or physical alteration metal dusts may be produced that cause irritation of the respiratory tract, skin, and may be harmful. Molten material may release toxic, and irritating fumes.

Symptoms/Injuries After Inhalation: Not expected to be a primary route of exposure. The primary acute health hazard associated with this product would be the potential for exposure to fumes during metal processing operations. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Symptoms/Injuries After Skin Contact: Skin contact is not considered a potential route of exposure. The primary acute health hazard associated with this product would be the potential for exposure to fumes during metal processing operations. Where possible allow molten material to solidify naturally. Removal of solidified molten material from skin requires medical assistance.

Symptoms/Injuries After Eye Contact: Not expected to be a primary route of exposure. Dust generated from material cutting may cause a slight irritation. Slivers may be generated, which could cause mechanical irritation or injure the eye.

Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure.

Chronic Symptoms:

Nickel: May cause a form of dermatitis known as nickel itch. Intestinal irritation, which may cause disorders, convulsions and asphyxia.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Does not burn. Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: None known.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Dust, chips, or ribbons can be ignited more easily, by an ignition source, by improper machining, or by spontaneous combustion if finely divided and damp.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: If metal is in molten form allow to cool and collect as a solid. If metal is in solid form collect for remelting purposes.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Violent reactions with oxidizers, nitric acid, sulfuric acid.

7.3. Specific End Use(s)

Soldering and brazing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Nickel (7440-02-0)		
USA ACGIH	ACGIH TWA (mg/m ³)	1.5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.015 mg/m ³
USA IDLH	US IDLH (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
Molybdenum (7439-98-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³
USA IDLH	US IDLH (mg/m ³)	5000 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls

: Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

: Protective goggles. Insulated gloves.



Hand Protection

: If material is hot, wear thermally resistant protective gloves.

Eye Protection

: During metal processing, chemical goggles or safety glasses.

Respiratory Protection

: During metal processing, wear approved mask.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Wire
Color	: Metallic, black to silvery
Odor	: Odorless.
Odor Threshold	: No data available
pH	: No data available
Relative Evaporation Rate (butylacetate=1)	: No data available
Melting Point	: 2623 °C (4753.4°F)
Freezing Point	: No data available
Boiling Point	: 4639 °C (8382.2°F)
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: 10.18 @20°C
Specific Gravity	: Not available
Solubility	: Insoluble. Water: 0.1 - 100 mg/l
Log Pow	: No data available

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Log Kow	: No data available
Viscosity, Kinematic	: No data available
Viscosity, Dynamic	: No data available
Explosive Properties	: No data available
Oxidizing Properties	: No data available
Explosive Limits	: Not applicable

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Stable under normal conditions. Dust, chips, or ribbons can be ignited more easily, by an ignition source, by improper machining, or by spontaneous combustion if finely divided and damp.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures.

Incompatible Materials: Strong acids. Strong bases. Violent reactions with oxidizers, nitric acid, sulfuric acid.

Hazardous Decomposition Products: Metal oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity : Not classified

Nickel or Gold Plated Molybdenum Strip	
LD50 Oral Rat	4233 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat (mg/l)	5.1 mg/l/4h

Nickel (7440-02-0)	
LD50 Oral Rat	> 9000 mg/kg

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Nickel (7440-02-0)	
IARC group	2B
National Toxicity Program (NTP) Status	3

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Not expected to be a primary route of exposure. The primary acute health hazard associated with this product would be the potential for exposure to fumes during metal processing operations. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Symptoms/Injuries After Skin Contact: Skin contact is not considered a potential route of exposure. The primary acute health hazard associated with this product would be the potential for exposure to fumes during metal processing operations. Where possible allow molten material to solidify naturally. Removal of solidified molten material from skin requires medical assistance.

Symptoms/Injuries After Eye Contact: Not expected to be a primary route of exposure. Dust generated from material cutting may cause a slight irritation. Slivers may be generated, which could cause mechanical irritation or injure the eye.

Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure.

Chronic Symptoms: Nickel: May cause a form of dermatitis known as nickel itch. Intestinal irritation, which may cause disorders, convulsions and asphyxia.

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Nickel or Gold Plated Molybdenum Strip	
LC50 Fish 1	609.1 ml/l
Nickel (7440-02-0)	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 1	0.18 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
LC 50 Fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 2	0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

12.2. Persistence and Degradability

Nickel or Gold Plated Molybdenum Strip	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Nickel or Gold Plated Molybdenum Strip	
Bioaccumulative Potential	Not established.

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG

14.1. UN Number Not applicable

14.2. UN Proper Shipping Name Not regulated for transport.

14.3. Additional Information

Other information : No supplementary information available.

Transport by Sea Not regulated for transport.

Air Transport Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Gold (7440-57-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Nickel (7440-02-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	100 lb (only applicable if particles are < 100 µm)
SARA Section 313 - Emission Reporting	0.1 %
Molybdenum (7439-98-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

US State Regulations

Nickel (7440-02-0)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State

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	of California to cause cancer.
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Nickel (7440-02-0)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Molybdenum (7439-98-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Flam. Sol. 2	Flammable solids Category 2
Repr. 2	Reproductive toxicity Category 2
H228	Flammable solid
H361	Suspected of damaging fertility or the unborn child

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom) - US Only