

Nickel or Gold Plated Molybdenum Copper Composite Strip, Plate, Bar, and Tube

Safety Data Sheet

Revision date: 12/14/2012

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name. : Nickel or Gold Plated Molybdenum Copper Composite Strip, Plate, Bar, and Tube

Product code : AMC 6040 / 6535 / 7525 / 8020 / 8515 / 9010

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation : Parts Manufacturing

1.3. Details of the supplier of the safety data sheet

Ametek Specialty Metal Products
21 Toelles Road
Wallingford, CT 06492
T 203-265-6731

1.4. Emergency telephone number

Emergency number : 800-424-9300 Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Comb. Dust H232
Resp. Sens. 1 H334
Skin Sens. 1 H317
Carc. 2 H351
STOT RE 1 H372
STOT RE 2 H373
Aquatic Acute 1 H400

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H232 - May form combustible dust concentrations in air
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure
H373 - May cause damage to organs through prolonged or repeated

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exposure
H400 - Very toxic to aquatic life

Precautionary statements (GHS-US) :

- 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/vapours/spray
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
- P264 - Wash ... thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P272 - Contaminated work clothing should not be allowed out of the workplace
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P284 - [In case of inadequate ventilation] wear respiratory protection
- P273 - Avoid release to the environment
- P302+P352 - IF ON SKIN: Wash with plenty of water/...
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P308+P313 - IF exposed or concerned: Get medical advice/attention
- P314 - Get medical advice and attention if you feel unwell
- P321 - Specific treatment (see ... on this label)
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
- P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
- P362+P364 - Take off contaminated clothing and wash it before reuse
- P391 - Collect spillage
- P405 - Store locked up
- P501 - Dispose of contents/container to ...

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Copper	(CAS No.) 7440-50-8	1 - 99	Not classified
Molybdenum	(CAS No.) 7439-98-7	1 - 99	Not classified
Gold	(CAS No.) 7440-57-5	0 - 1	Not classified
Nickel	(CAS No.) 7440-02-0	0 - 1	Skin Sens. 1, H317 Carc. 1B, H350 STOT RE 1, H372

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Move the person to fresh air and support breathing as required. Consult a physician if victim has continued difficulty breathing.

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- First-aid measures after skin contact : Remove clothing around affected area. Rinse away loose material and wash affected area with soap and water. If there is a severe skin reaction or reddened or blistered skin, consult a physician.
- First-aid measures after eye contact : Lift eyelids and flush immediately with flooding amounts of water for at least 15 minutes. Do not allow the victim to rub his/her eyes or keep them shut. Consult a physician or ophthalmologist if all material cannot be removed or if there is continuing irritation.
- First-aid measures after ingestion : Never give anything by mouth to an unconscious or convulsing person. Contact a poison control center with information from this SDS and the Technical Data Sheet on the composition of the material ingested. Unless the poison control center advises otherwise, give the person one or two glasses of water, then induce vomiting. After first aid, have the person see a physician for follow up care.

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

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use dry sand, dry dolomite, or dry graphite powder or other dry chemical extinguishing agent formulated for metal fires.
- Unsuitable extinguishing media : Do not use water or halon.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Avoid grinding material. There is a moderate fire and explosion hazard when dust is exposed to heat or flame.
- Reactivity : Reacts with strong acids and caustics to form flammable and explosive hydrogen gas. Contact with sulfur may cause evolution of heat. Contact with halogenated compounds and oxidizers may produce violent reactions and fires. Gold plus ammonia may produce fulminate-like compounds that explode when dried. Finely divided gold and strong hydrogen peroxide solution may explode.

5.3. Advice for firefighters

- Protection during firefighting : Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Wear appropriate protective clothing and respiratory protection for the situation.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

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6.2. Environmental precautions

None.

6.3. Methods and material for containment and cleaning up

For containment : Isolate spill area and provide ventilation.
Methods for cleaning up : Collect spilled material and place in sealed containers for reclamation or disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use local exhaust ventilation if cutting or welding to protect against dust and fume inhalation. If workers are exposed to dust provide appropriate respiratory, eye, and skin protection. An eye wash station should be readily available to areas of use.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Protect containers from physical damage.
Incompatible materials : Acids, caustics, halogenated compounds, and oxidizers.

7.3. Specific end use(s)

No additional information available

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 IDLH	US IDLH (mg/m ³)	10 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.015 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³

Copper (7440-50-8)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	100 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.1 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 : If welding or cutting, provide local exhaust with a minimum face velocity of 60 fpm.

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Hand protection	: Use impervious gloves such as neoprene, nitrile, or rubber for hand protection.
Eye protection	: If welding or cutting, wear safety glasses with side shields and/or goggles as necessary to prevent dust from entering eyes.
Skin and body protection	: Use body protection appropriate for task.
Respiratory protection	: If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Strip.
Colour	: silver.
Odour	: odorless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available

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Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

Oxidising properties : No data available

Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with strong acids and caustics to form flammable and explosive hydrogen gas. Contact with sulfur may cause evolution of heat. Contact with halogenated compounds and oxidizers may produce violent reactions and fires. Gold plus ammonia may produce fulminate-like compounds that explode when dried. Finely divided gold and strong hydrogen peroxide solution may explode.

10.2. Chemical stability

The product is stable at normal handling- and storage conditions.

10.3. Possibility of hazardous reactions

Will not occur.

10.4. Conditions to avoid

Heat may cause production of metal fumes.

10.5. Incompatible materials

Acids, caustics, halogenated compounds, and oxidizers.

10.6. Hazardous decomposition products

Toxic metal oxides and carbon and nitrogen oxides may be produced during a fire involving metal alloys. Copper may produce nitrogen oxide if reacted with nitric acid and/or copper fumes. Alloys with nickel may also produce poisonous nickel carbonyl.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Ingestion of small amounts may occur through eating, smoking, or other hand to mouth contact. Ingestion of small amounts is unlikely to cause significant health effects, however cobalt poisoning may occur - see a physician if symptoms persist.

Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg

Skin corrosion/irritation : May cause skin irritation and dermatitis especially in creases of the skin where metal may accumulate and rub against skin.

Serious eye damage/irritation : Not classified

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Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

Inhalation of metal powder may cause chills, fever, sweating, nausea, and cough (symptoms of metal fume fever). Metal fume fever symptoms typically begin within 4 to 12 hours after the initial exposure and lasts from approximately 24 hours without causing permanent damage. Other effects may include nose and throat irritation, metallic taste, difficulty breathing, wheezing, coughing, weight loss, pulmonary damage and chest pain.

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

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) : Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

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)
LC50 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 - 0.311 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Copper (7440-50-8)	
LC50 fish 1	0.0068 - 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 1	0.0426 - 0.0535 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
LC50 fish 2	< 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 other aquatic organisms 2	0.031 - 0.054 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

12.2. Persistence and degradability

No additional information available

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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

Not a dangerous good in sense of transport regulations.

14.2. UN proper shipping name

Not applicable

14.2 Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. 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)

SARA Section 313 - Emission Reporting

0.1 %

Copper (7440-50-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on SARA Section 313 (Specific toxic chemical listings)

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Copper (7440-50-8)	
SARA Section 313 - Emission Reporting	1.0 %

Molybdenum (7439-98-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State regulations

Nickel (7440-02-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes				

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

Copper (7440-50-8)
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

Full text of R-, H- and EUH-phrases::

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Carc. 2	Carcinogenicity Category 2
Skin Sens. 1	Skin sensitisation Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H317	May cause an allergic skin reaction
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life

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SDS US (GHS HazCom 2012)

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.