# SAFETY DATA SHEET



11T - Aluminum Bronze Nickel Wire

### **Section 1. Identification**

**GHS** product identifier : 11T - Aluminum Bronze Nickel Wire

Other means of identification

: Not available.

**Product type** : Solid.

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

Not applicable.

Supplier's details : TAFA Inc. A Praxair Surface Technologies Company

> 146 Pembroke Rd. Concord, NH 03301

**Emergency telephone** number (with hours of

operation)

: Emergency telephone number (with hours of operation)

### Section 2. Hazards identification

**OSHA/HCS** status : This material is considered hazardous by the OSHA Hazard Communication Standard

(29 CFR 1910.1200).

Classification of the substance or mixture : CARCINOGENICITY - Category 2

**GHS** label elements

**Hazard pictograms** 



Signal word : Warning

**Hazard statements** : Suspected of causing cancer.

**Precautionary statements** 

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have

been read and understood. Use personal protective equipment as required.

Response : IF exposed or concerned: Get medical attention.

**Storage** : Store locked up.

: Dispose of contents and container in accordance with all local, regional, national and **Disposal** 

international regulations.

Hazards not otherwise

: None known.

# Section 3. Composition/information on ingredients

Substance/mixture

: Substance

Other means of identification

: Not available.

**CAS** number/other identifiers

**CAS** number : Not available.

: 11T - Nickel Aluminum Bronze Wire **Product code** 

11T - Nickel Aluminum Bronze Wire Date of issue/Date of revision : 5/26/2015. 1/12

# Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
11T - Aluminum Bronze Nickel Wire	100	-
copper	>75	7440-50-8
Aluminum	5 - 20	91728-14-2
manganese	1 - 5	7439-96-5
iron	1 - 5	7439-89-6
Nickel	1 - 5	7440-02-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First aid measures

#### **Description of necessary first aid measures**

Eye contact : Immediately

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10

minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If

not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and

shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing

before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and

the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing

such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

Eye contact
 Inhalation
 No known significant effects or critical hazards.
 Skin contact
 No known significant effects or critical hazards.
 Ingestion
 No known significant effects or critical hazards.

### Over-exposure signs/symptoms

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

#### Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

Date of issue/Date of revision : 5/26/2015. 11T - Nickel Aluminum Bronze Wire 2/12

### Section 4. First aid measures

**Protection of first-aiders** 

: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

#### See toxicological information (Section 11)

## Section 5. Fire-fighting measures

#### **Extinguishing media**

Suitable extinguishing media

: Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing** media

: None known.

Specific hazards arising from the chemical

**Hazardous thermal** decomposition products : Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

: Decomposition products may include the following materials: metal oxide/oxides

**Special protective actions** for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective** equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

**Environmental precautions** 

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

#### Methods and materials for containment and cleaning up

: 5/26/2015.

**Small spill** 

: Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill

: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

#### **Precautions for safe handling**

#### **Protective measures**

Put on appropriate personal protective equipment (see Section 8). Avoid exposure obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

# including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

: 5/26/2015.

#### **Control parameters**

**Occupational exposure limits** 

Ingredient name	Exposure limits
copper	ACGIH TLV (United States, 6/2013).
	TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dust
	and mist
	TWA: 0.2 mg/m³ 8 hours. Form: Fume
	OSHA PEL 1989 (United States, 3/1989).
	TWA: 1 mg/m³, (as Cu) 8 hours. Form:
	Dusts and Mists
	TWA: 0.1 mg/m³, (as Cu) 8 hours. Form:
	Fume
	NIOSH REL (United States, 10/2013).
	TWA: 1 mg/m³, (as Cu) 10 hours. Form:
	Dusts and Mists
	OSHA PEL (United States, 2/2013).
	TWA: 1 mg/m³ 8 hours. Form: Dusts and
	Mists
Aluminum	TWA: 0.1 mg/m³ 8 hours. Form: Fume ACGIH TLV (United States, 6/2013).
Aluminum	TWA: 1 mg/m³ 8 hours. Form: Respirable
	fraction
manganese	OSHA PEL 1989 (United States, 3/1989).
manganese	TWA: 1 mg/m³, (as Mn) 8 hours. Form: Fume
	STEL: 3 mg/m³, (as Mn) 15 minutes. Form:
	Fume
	NIOSH REL (United States, 10/2013).
	TWA: 1 mg/m³, (as Mn) 10 hours. Form:
	Fume
	STEL: 3 mg/m³, (as Mn) 15 minutes. Form:
	Fume
	OSHA PEL (United States, 2/2013).
	CEIL: 5 mg/m³, (as Mn) Form: Fume
	ACGIH TLV (United States, 6/2013).
	TWA: 0.1 mg/m³, (as Mn) 8 hours. Form:
	Inhalable fraction

# Section 8. Exposure controls/personal protection

	TWA: 0.02 mg/m³, (as Mn) 8 hours. Form:
	Respirable fraction
Nickel	ACGIH TLV (United States, 6/2013).
	TWA: 1.5 mg/m³ 8 hours. Form: Inhalable
	fraction
	OSHA PEL 1989 (United States, 3/1989).
	TWA: 1 mg/m³, (as Ni) 8 hours.
	NIOSH REL (United States, 10/2013).
	TWA: 0.015 mg/m³, (as Ni) 10 hours.
	OSHA PEL (United States, 2/2013).
	TWA: 1 mg/m³, (as Ni) 8 hours.

# Appropriate engineering controls

: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

# **Environmental exposure** controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### **Individual protection measures**

**Hygiene measures** 

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** 

: Safety eyewear complying with an approved standard should be used to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### **Skin protection**

**Hand protection** 

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** 

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** 

: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### **Appearance**

Physical state : Solid. [Wire]
Color : Silvery.
Odor : Odorless.
Odor threshold : Not available.
PH : Not available.
Melting point : Not available.

Date of issue/Date of revision : 5/26/2015. 11T - Nickel Aluminum Bronze Wire 5/12

# Section 9. Physical and chemical properties

Boiling point: Not available.Flash point: Not available.Evaporation rate: Not available.Flammability (solid, gas): Not available.Lower and upper explosive (flammable) limits: Not available.

Vapor pressure : Not available.
Vapor density : Not available.
Relative density : Not available.

**Solubility** : Insoluble in the following materials: cold water and hot water.

Partition coefficient: n-

octanol/water

: Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

VOC content : 0 lbs/gal (0 g/l)

# Section 10. Stability and reactivity

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability**: The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# Section 11. Toxicological information

### Information on toxicological effects

#### **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
manganese	LD50 Oral	Rat	9 g/kg	-

#### **Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
manganese	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
				milligrams	
	Skin - Mild irritant	Rabbit	-	24 hours 500	-
				milligrams	

#### **Sensitization**

Not available.

### **Mutagenicity**

Not available.

#### **Carcinogenicity**

# **Section 11. Toxicological information**

Not available.

#### Classification

Product/ingredient name	OSHA	IARC	NTP
Nickel	-	2B	Reasonably anticipated to be a human carcinogen.

#### Reproductive toxicity

Not available.

#### **Teratogenicity**

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### **Aspiration hazard**

Not available.

Information on the likely

routes of exposure

: Not available.

#### Potential acute health effects

Eye contact
 Inhalation
 No known significant effects or critical hazards.
 Skin contact
 No known significant effects or critical hazards.
 Ingestion
 No known significant effects or critical hazards.
 No known significant effects or critical hazards.

#### Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

#### Delayed and immediate effects and also chronic effects from short and long term exposure

**Short term exposure** 

Potential immediate : No

effects

: Not available.

Potential delayed effects : Not available.

**Long term exposure** 

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

#### Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of

exposure.

Mutagenicity : No known significant effects or critical hazards.
 Teratogenicity : No known significant effects or critical hazards.
 Developmental effects : No known significant effects or critical hazards.
 Fertility effects : No known significant effects or critical hazards.

Date of issue/Date of revision : 5/26/2015. 11T - Nickel Aluminum Bronze Wire 7/12

# Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Not available.

# Section 12. Ecological information

### **Toxicity**

days la hours la hours la hours la hours la hours hours
72 hours 72 hours 18 hours
72 hours
18 hours
6 hours
2 hours
3 days
21 days
21 days
3 weeks
l days
18 hours
96 hours
l days
18 hours
96 hours
2 hours
l days
l days
18 hours
18 hours
96 hours
2 hours
l weeks
18 16 18 18 18 18 18 18

### Persistence and degradability

Not available.

### **Bioaccumulative potential**

Not available.

# Section 12. Ecological information

**Mobility in soil** 

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** 

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## **Section 14. Transport information**

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	Reportable quantity 3333.3 lbs / 1513.3 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	_	_	-	-	_

: 5/26/2015.

# **Section 14. Transport information**

Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in the

event of an accident or spillage.

Transport in bulk according: Not available.

to Annex II of MARPOL 73/78 and the IBC Code

### Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Not determined.

Clean Water Act (CWA) 307: copper; Nickel

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)**  Listed

Clean Air Act Section 602

**Class I Substances** 

: Not listed

**Clean Air Act Section 602** 

**Class II Substances** 

: Not listed

**DEA List I Chemicals** 

(Precursor Chemicals)

: Not listed

**DEA List II Chemicals** (Essential Chemicals) : Not listed

#### **SARA 302/304**

#### **Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312** 

Classification : Delayed (chronic) health hazard

**Composition/information on ingredients** 

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
11T - Aluminum Bronze Nickel Wire	100	No.	No.	No.	No.	Yes.
Nickel	1 - 5	No.	No.	No.	No.	Yes.

#### **SARA 313**

	Product name	CAS number	%
Form R - Reporting requirements	Nickel	7440-50-8 7440-02-0 7439-96-5	>75 1 - 5 1 - 5
Supplier notification	Nickel	7440-50-8 7440-02-0 7439-96-5	>75 1 - 5 1 - 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

#### **State regulations**

**Massachusetts** : The following components are listed: COPPER; NICKEL; MANGANESE

**New York** : The following components are listed: Copper; Nickel

11T - Nickel Aluminum Bronze Wire Date of issue/Date of revision 10/12 : 5/26/2015.

# Section 15. Regulatory information

New Jersey : The following components are listed: COPPER; NICKEL; MANGANESE

Pennsylvania : The following components are listed: COPPER FUME; NICKEL; MANGANESE

California Prop. 65

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

Ingredient name	Cancer	•	level	Maximum acceptable dosage level
Nickel	Yes.	No.	No.	No.

#### International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

**Stockholm Convention on Persistent Organic Pollutants** 

Not listed.

**Rotterdam Convention on Prior Inform Consent (PIC)** 

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals** 

Not listed.

#### **International lists**

**National inventory** 

: Not determined. **Australia** Canada : Not determined. China : Not determined. **Europe** : Not determined. : Not determined. **Japan** Malaysia : Not determined. **New Zealand** : Not determined. **Philippines** : Not determined. Republic of Korea : Not determined. **Taiwan** : Not determined.

### Section 16. Other information

<u>History</u>

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revision

**Key to abbreviations** : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References : Not available.

**Notice to reader** 

Date of issue/Date of revision : 5/26/2015. 11T - Nickel Aluminum Bronze Wire 11/12

### Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

: 5/26/2015.