SAFETY DATA SHEET

COPPER ANTI-SEIZE TAPE

Date: SEPTEMBER 2015
ISSUED BY UNASCO PTY LTD

1. IDENTIFICATION

GHS Product Identifier
NICKEL ANTI-SEIZE TAPE

Company Name
UNASCO PTY LTD

Address
1 Amax Avenue Girraween
N.S.W. 2145 Australia

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Emergency Telephone Number:
Unasco Pty Ltd CCN710993
CHEMTREC (USA & Canada) 800 424 9000
International: 703 741 5970

Recommended use of the chemical and restrictions on use
Anti-seize on threaded components.

GHS classification of the substance/mixture
Not classified as Hazardous according to the Globally Harmonized System of Classification.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Polytetrafluoroethylene	9002-84-0	60-100%
Nickel	7440-02-0	10-30%
Distillates, Petroleum, Hydro-treated Light	64742-47-8	0-1%
Ingredients determined not to be hazardous		Balance

A test conducted by wiping both sides of the tape with a tissue soaked in acetone indicates that there is <1% of free nickel on the surface of the tape. There is more than <1% in the final product but most of the Ni is encapsulated in the tape. There would be less than <1% by weight exposed on the surface of the tape.

4. FIRST-AID MEASURES

Inhalation

Not considered a potential route of exposure.

Ingestion

Unlikely due to form of product. However, if ingested, do not induce vomiting. Wash out mouth thoroughly with water. If symptoms develop seek medical attention.

Skin

Not considered a potential route of exposure.

Eye contact

Not considered a potential route of exposure. However, if in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and/or persist seek medical attention.

First Aid Facilities

Eyewash and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use carbon dioxide, dry chemical, water mist, or water spray.

Hazards from Combustion Products

Under fire conditions, this product may emit toxic and/or irritating fumes, including carbon monoxide, carbon dioxide, and oxides of nitrogen.

Specific Hazards Arising From The Chemical

Combustible solid; will readily burn under fire conditions. Product will also burn in an atmosphere of greater than 95% oxygen.

Decomposition Temperature

> 260°C/500°F

Precautions in connection with Fire

Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapors or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Protective equipment and special precautions not required. Collect the material and place into a suitable labeled container. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Use only in a well ventilated area away. Keep containers tightly closed when not in use. Maintain high standards of physical hygiene i.e. washing hands prior to eating, drinking, smoking, or using toilet facilities.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, foodstuffs, and clothing. Keep containers closed when not in use and protected against physical damage. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Ensure that storage procedures comply with applicable local and national regulations.

Corrosiveness

Non corrosive

Storage Temperatures

Store in a cool place below 260°C/500°F

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Nickel, metal
TWA: 1 Ppm/mg/m^3

NOTICE: The substance may cause sensitization by skin contact or by inhalation.

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

Polytetrafluoroethylene
The material is not normally an inhalation hazard at temperatures below 260°C/500°F as it remains an inert solid.
However, exposure to thermal degradation products at temperatures above 500°F or fumes from tobacco contaminated with particles of the product may result in polymer fume fever or influenza-like symptoms (chills, headaches, difficulty in breathing and fever). Symptoms may appear several hours after exposure but will disappear within 24-48 hours. There are exposure standards for decomposition products.

Hydrogen fluoride
TWA: 3 ppm
TWA: 2.6 mg/m^3
NOTICE: Peak limitation

Carbonyl fluoride is the main decomposition product formed when Polytetrafluoroethylene is subjected to extended exposure at normal sintering temperatures (500°C/752°F). Carbonyl fluoride is immediately converted to highly corrosive hydrogen fluoride in the presence of moist air.

Biological Limit Values

No biological limits allocated.

Appropriate Engineering Controls

Use with good general ventilation. If mist or vapors are produced, local exhaust ventilation should be used.

Respiratory Protection

Generally not required.

Eye Protection
Generally not required.

Hand Protection
Not necessary under normal conditions of use in most cases since less than 1% of free nickel on the surface of the tape. However, persons with pre-existing skin medical conditions and/or allergic reactions should avoid repeated skin contact and wear impervious chemical gloves. Final choice of appropriate gloves will vary according to individual circumstances, i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Body Protection
Suitable protective work wear, e.g. cotton overalls buttoned at neck and wrist is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Silver-gray tape

Color
Silver-gray

Odor
Odorless

Decomposition Temperature
> 260°C/500°F

Melting Point
Not available

Freezing Point
Not available

Boiling Point
Polymer component depolymerizes at 260°C/500°F.

Solubility in Water
Insoluble

Specific Gravity

pH
Not applicable
Vapor Pressure
Not available

Vapor Density (Air=1)
Not applicable

Evaporation Rate
Not applicable

Viscosity
Not applicable

Partition Coefficient: Not available
N-octanol/water
Density
1.6g/cm²

Flash Point
Not applicable

Flammability
Not flammable

Auto-Ignition Temperature
Not applicable

Explosion Limit - Upper
Not applicable

Explosion Limit - Lower
Not available
Other Information: Not sensitive to shock.

10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions of storage and handling. Stable up to 260°C/500°F.

Reactivity and Stability
Alkali metals remove fluorine from the polymer molecule. Extremely potent oxidizers such as fluorine and related compounds can be handled by PTFE with great care. The mixture becomes sensitive to a source of ignition such as impact. Some acids might react with nickel on the surface of the tape.

Conditions to Avoid
Temperatures above 260°C/500°F without adequate ventilation. Flames and other sources of ignition.

Incompatible materials
Alkali metals such as elemental sodium, potassium, lithium,
80% NAOH or KOH.
Some acids (react with nickel).
Metal hydrides such as boranes (e.g. B2H6) aluminum chloride, ammonia, certain amines (R-NH2), imines (RH-NH) and 70% nitric acid at temperatures near -224°C/-436°F to 260°C/500°F. **Do not use on oxygen lines.**

Hazardous Decomposition Products
Thermal decomposition may result in the release of toxic and/or irritating fumes including carbon oxides and hydrogen fluoride.

Possibility of hazardous reactions
Not available

Hazardous Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information
No toxicity data available for this material.

Ingestion
Ingestion of this product may irritate the gastric tract causing nausea and vomiting.

Inhalation
The material is not normally an inhalation hazard at temperatures below 260°C/500°F as it remains an inert solid. However, exposure to thermal degradation products at temperatures above 260°C/500°F including nickel and its oxides, may produce severe pulmonary irritation which may be fatal. Signs and symptoms of pulmonary effects due to thermal decomposition may include sneezing, coughing, headaches, breathing difficulties and a pseudo-flu condition with fever and muscular pains. These effects may also be delayed. Gastrointestinal disturbances and convulsions can also occur.

Skin
May be irritating to skin. The symptoms may include redness, itching and possible dermatitis. Nickel itch may begin with a burning sensation and localized itching on the hand, redness and nodular eruptions on the web of the fingers.

Eye
No adverse effects expected.

Respiratory sensitization
Not expected to be a respiratory sensitizer.

Skin Sensitization
Not expected to be a skin sensitizer.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.
Nickel is listed as a Group B: Possibly carcinogenic to humans according to the International Agency for Research on Cancer (IARC).
Polytetrafluoroethylene is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity
Not considered to be toxic to reproduction.

12. ECOLOGICAL INFORMATION

Ecotoxicity
No ecological data available for this material.

Persistence and degradability
Not available

Mobility
Not available

Bio-accumulative Potential
Not available

Other Adverse Effects
Not available

Environmental Protection

13. DISPOSAL CONSIDERATIONS

Disposal considerations
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

14. TRANSPORT INFORMATION

Transport Information
Road and Rail Transport:
Not classified as Dangerous Goods.

Marine Transport (IMO/IMDG):
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Air Transport (ICAO/IATA):
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

U.N. Number
None Allocated

UN proper shipping name
None Allocated

Transport hazard class(es)
None Allocated

IMDG Marine pollutant
No

15. REGULATORY INFORMATION

Regulatory information
Not classified as Hazardous according to the Globally Harmonized System of Classification.
Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule
Not Scheduled

16. OTHER INFORMATION