



Braze for Bases (Alloy 18-550)

1 – IDENTIFICATION

PRODUCT NAME: Alloy 18-550

FORMULA: Alloy of silver, palladium, copper, and nickel

CHEMICAL FAMILY: Metals

COMPANY NAME:

Orthodontic Design and Production

1370 Decision Street, Suite D

Vista, CA 92081 (760) 734-3995

2 – HAZARDOUS INGREDIENTS

INGREDIENTS:	CHEMISTRY %	TLV mg/m3	PEL mg/m3
Copper (7440-50-8)	29-31%	Dust:1 Dust:1	Fume: 0.2 Fume: 0.1
Nickel (7440-02-0)	4.5-5.5%	1	1
Palladium (7440-05-3)	9-11	n/a	n/a
Silver (7440-22-4)	54-56%	0.1	0.01

***This product contains a chemical(s) know to the State of California to cause cancer

3 – HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Inhalation

Inhalation of the components of this product is not known to present a significant risk to health when used according to instructions and with appropriate protective measures (see section 8). Inhalation of components has been reported to cause one or more of the following symptoms and/or effects upon excessively high or prolonged exposure:

SILVER: chronic exposure may produce argyria, a permanent blue-gray discoloration of the skin, eyes, mucous membranes, and respiratory tract.

COPPER: Acute exposure to nickel may cause headache, nausea, vertigo, asthma, and pulmonary edema. Chronic exposure may damage the liver

NICKEL: Acute exposure to nickel may cause headache, nausea, vertigo, asthma, and pulmonary edema. Chronic exposure may increase the risk of cancer to the nasopharynx, lungs, prostate, and kidney.

PALLADIUM: No significant acute or chronic effects are known from inhalation exposure to palladium metal.

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4 – PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE (mm Hg.): n/a

VAPOR DENSITY (Air=1): n/a

SOLUBILITY IN WATER: insoluble

APPEARANCE: paste

ODOR: no odor

PERCENT VOLATILE BY VOLUME: n/a

5 – FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Fahrenheit): n/a

FLAMMABLE LIMITS: n/a

EXTINGUISHING MEDIA: use dry powder extinguishing agent. Do not use water.

FIRE AND EXPLOSION HAZARD: This product may react vigorously or ignite when exposed to incompatible materials (see section #6). If present in a fire or explosion, it may emit fumes of the constituent metals and/or metal oxides.

SPECIAL FIREFIGHTING INSTRUCTIONS: If fighting a fire in which this product is present, wear a self-contained breathing apparatus with full-face piece operated in pressure-demand or other positive pressure mode.

6 – REACTIVITY DATA

CONDITIONS TO AVOID (STABILITY): Stable at room temperature. Silver and copper can form unstable acetylides upon contact with acetylene gas.

INCOMPATIBILITY MATERIALS: Strong oxidizers; Se; Te; Mg; chlorates; NH₃. HNO₃; azides, ethanol, ethylene imine, ClF₃; inorganic and organic peroxides; peroxyformic acid; chlorine and fluorine, permonosulfuric acid; CrO₃, Mn and Ca chlorides; CS₂; hydrazine mononitrate; nitrobenzene; Fe(CO)₅; seleninyl bromide.

HAZARDOUS DECOMPOSITION PRODUCTS: Heating to elevated temperatures may liberate metal/metal oxide fume. Hazardous polymerization will not occur.

Note: This MSDS was prepared in accordance with the requirements of the OSHA Haard Communication Standard (29 CFR 1910.1200) and is to be used only for this product. The information contained in this MSDS is, to the best of our knowledge, believed to be accurate.

CONTACT CHEMTREC (800) 424-3900 IN CASE OF EMERGENCY



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7 – EMERGENCY/FIRST AID MEASURES

FIRST AID- INHALATION: If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

ROUTE OF EXPOSURE- SKIN Skin contact with this product, particularly in finely divided forms, may cause irritation, discoloration, and/or allergic reaction.

FIRST AID- SKIN Remove contaminated clothing. Wash affected area with large quantities of water for at least five minutes. Seek medical assistance if necessary.

ROUTE OF EXPOSURE- EYES Eye contact with finely divided forms of the product may cause localized irritation, argyria, and or conjunctivitis.

FIRST AID- EYES Flush affected areas with water for at least 15 minutes. Seek medical assistance if necessary.

ROUTE OF EXPOSURE- INGESTION Ingestion of this product in finely divided forms may cause gastrointestinal irritation, abdominal pain, and cramps. Long-term chronic ingestion may damage the liver, kidneys, and musculoskeletal and central nervous system.

FIRST AID- INGESTION If subject is conscious, induce vomiting, If unconscious or convulsive, seek immediate medical assistance.

MISCELLANEOUS TOXICOLOGICAL INFORMATION

CARCINOGENITY: Nickel is classified as a potential human carcinogen by the following organizations (with respective sub classifications): (1) IARC (Group 2B); (2) NTP (Group 2B). None of the other components of this product are classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

GENETIC/REPRODUCTIVE EFFECT: Nickel has produced fetotoxic and teratogenic effects in animal studies, and mutagenic responses in mammalian cell cultures.

HEALTH CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing pulmonary diseases (e.g., bronchitis, asthma) may be aggravated by inhalation exposure, particularly as fume. Chronic exposure by inhalation and/or ingestion may aggravate pre-existing diseases of the liver, kidneys, gastrointestinal system, and nervous system.

8 – HANDLING AND STORAGE

Hazard Class: Shipment not controlled by USDOT/IATA/ICAO/IMO regulations. Do not store in proximity to incompatible materials (see section #6).

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9 – SPECIAL PROTECTION

RESPIRATORY: If an exposure level exceeds an OSHA PEL(s) or other applicable standard, use a NIOSH-approved respirator having a configuration (class, type of face piece, filter media, assigned protection factor. etc.) appropriate to the concentration of the contaminant(s) generated. For guidance on selection and use of respiratory protection, consult American National Standard Z88.2 (ANSI, New York NY 10036 USA)

VENTILATION: Use appropriate ventilation (e.g., dilution, local exhaust) adequate to maintain concentrations of all components and their decomposition byproducts to within their respective OSHA PELs or other applicable standards.

EYE PROTECTION AND PROTECTIVE CLOTHING: Wear eye protection (safety glasses, goggles) adequate to prevent eye contact with finely divided forms of product and eye injury from the hazards of brazing. Plastic-Frame spectacles with side shields and filter lenses (shade #3 or #4) are recommended.

SKIN PROTECTION: Wear appropriate protective gloves and clothing to prevent skin injuries from the hazards of brazing and/or for prolonged or repeated contact with finely divided forms of product. Avoid flammable fabrics.

10 – SPILL OR LEAK PROCEDURES

If a finely divided form of the product is spilled, clean up spillage so as to minimize dispersion of dust. Wet sweeping or vacuuming using HEPA filtration are recommended.

11 – DISPOSAL INFORMATION

WASTE DISPOSAL METHODS Consult the manufacturer for disposition of unused or unusable product

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12 – REGULATORY INFORMATION

SARA Title III Notifications and Information SARA Title III – Hazard

Classes: Acute Health Hazard, Chronic Health Hazard

SARA Title III- Section 313 Supplier Notification This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and of 40 CFR 372:

Copper (7440-50-8)	29.0- 31.0%
Nickel (7440-02-0)	4.5-5.5%
Silver (7440-22-4)	54.0-56.0%

This information must be included on all MSDSs that are copied and distributed for this material.

13 – DISCLAIMER OF WARRANTIES

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for his or her particular purpose(s).