PHOENIX

SAFETY DATA SHEET

Complies with OSHA Standard 29 CFR 910.1200

Braze Material
Optimal 2X
Brackets
and Tubes

1. Product and Company Identification

Product Name: **Braze Material**
Product Use: Brazing paste used for joining metals by heating the parts to be joined and this paste to or above the melt point of filler metals.
Chemical Stability: Stable under normal conditions.
Possibility of Hazardous Reactions: No dangerous reactions known under normal conditions of use. In contact with water, releases flammable gases which may ignite spontaneously.
Conditions to Avoid: None under recommended storage and handling conditions.
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Avoid dust formation. Water, humidity.
Incompatible Materials: Metals
Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Manufacturer Name: Phoenix Orthodontics
Manufacturer Address: 3250 Palladian Village Drive
Marietta, GA 30066
Business Phone: 770-643-8896
Emergency Phone: 770-643-8896
Revision Date: May 1, 2020

2. Hazardous Ingredient Information

NAME	CHEMICAL NAME/ SYNONYM	PRODUCT IDENTIFIER	%	CLASSIFICATION (GHS CA)
Silver	Silver, metallic / Silver metal / C.I. 77820 / Nanoscale Silver / Nonosilver/Silver, metal / Silver, elemental / C.I. 77820	(CAS-No.) 7440-22-4	44.64 - 49.92	Aquatic Acute 1, H400
Copper	C.I. 77400 / C.I. Pigment Metal 2 / Copper, elemental / CI 77400/ Copper metal / Copper, metallic/ Pigment Metal 2 / Granulated copper	(CAS-No.) 7440-50-8	19.8 - 23.01	Aquatic Acute 1, H400
Potassium Fluoride (K(HF2))	Potassium bifluoride / Potassium acid fluoride / Potassium hydrogen difluoride / Potassium hydrogendifluoride / Potassium hydrofluoride	(CAS-No.) 7789-29-9	4.84 - 8.4	Skin Corr. 1, H314 Eye Dam. 1, H318 STOT SE 3, H335
Boric Acid (H3BO3)	Boric acid / Orthoboric acid / BORIC ACID / Boracic acid	(CAS-No.) 10043-35-3	5.5 - 8.4	Repr. 1, H360
Tin	Tin, metal / Tin, elementa l/	(CAS-No.) 7440-31-5	3.6 - 5.46	Acute Tox. 4 (Oral), H302
Borate(1-), tetrafluoro-, potassium	Potassium borofluoride / Potassium fluoroborate / Potassium tetrafluoroborate / Potassium fluoborate / Borate(1-) tetrafluoro-, potassium (1:1) / Potassium tetrafluoroborate(1-)	(CAS-No.) 14075-53-7	2.64 - 5.04	Not classified
Nickel	Nickel metal / Nickel, elemental / Nickel, metallic / Nickel, metal / C.I. 77775	(CAS-No.) 7440-02-0	1.44 - 2.34	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400

3. Physical/Chemical Characteristics

Boiling Point:	>315°F
Vapor Pressure (mm Hg:):	No data available
Vapor Density (Air = 1):	>1
Solubility in Water:	Negligible
Specific Gravity (H_2O = 1)	>2
Melting Point (°F):	Approx. 1205°F
Evaporation Rate:	(n-butyl acetate=1): >1
Appearance and Odor:	Light gold paste with a characteristic odor.

4. Fire and Explosion Hazard Data

Flash Point (°F):	>140°F
Flammable Limits (LEL & UEL):	No data available
Extinguishing Media:	Regular foam, carbon dioxide, and dry chemical.
Hazardous Products of Combustion:	Hydrogen fluoride, potassium oxide, boric oxide, carbon monoxide, aldehydes, carbon dioxide, various hydrocarbons, tin fumes, zinc oxide fumes, toxic metal oxide fumes.
Special Fire Fighting Procedures:	Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.
Unusual Fire and Explosion Data:	None

5. Reactivity Data

Stability: Stable
Hazardous Polymerization: Will not occur
Incompatibility (materials and conditions to avoid):
Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard. Acids, alkalies, oxidizing agents, sodium and calcium hypochlorites, acetylene, ammonia, hydrogen peroxide, magnesium metals, haologens, chlorinated rubber, chlorides, turpentine, alcohols, amines.

6. Health Hazard Data

Health Hazards (effects of overexposure to alloys and their fumes):
Absorption and inhalation of silver compounds may cause a blue-gray discoloration of the skin, mucous membranes, and eyes called argyria. This discoloration may become permanent. Localized angyria may occur from silver particles embedded in the skin during handling. Copper fumes may cause metal fume fever with flu-like symptoms and skin and hair discoloration. While industrial dermatitis has not been reported, keratinization of the hands and the soles of the feet has been reported. Systematically as well, copper dust and fumes cause irritation of the upper respiratory tract, metallic taste in the mouth, and nausea. Inhalation of zinc fumes may cause “metal fume fever.” Onset symptoms may be delayed 4-12 hours and include irritation of the nose, mouth, and throat, cough, stomach pain, headache, nausea, vomiting, metallic taste, chills, fever, pains in the muscles and joints, thirst, bronchitis or pneumonia and a bluish tint to the skin. These symptoms go away in 24-48 hours and leave no effect. The inhalation of inorganic tin fumes may cause an apparent benign pneumoconiosis called stannosis, which is reported not to be disabling.

Health Hazards (effects of overexposure to flux-binder):
Eyes: Direct contact can cause eye burns with possible permanent damage.
Skin: Severely irritating to the skin. Prolonged contact may cause burns. Systemic poisoning through absorption is possible.
Inhalation: At ambient temperatures this material is not expected to cause any adverse effects. Fumes when heated can cause irritation to the respiratory tract, pulmonary edema and death.
Ingestion: Can severely irritates and burn the mouth, throat, and stomach, ingestion may cause systemic poisoning. Symptoms include abdominal pain, nausea, and vomiting, pulmonary edema by aspiration.

Medical Conditions Generally Aggravated by Exposure:
Pre-existing eye, skin or respiratory disorders.

Target Organs:
Repeated exposure to fluoride containing dust and fumes can result in excessive calcification of bones and certain ligaments; stiffness and limitation of motion can result. Nasal system, respiratory system, skin, eyes, increased risk with Wilson’s disease.

Carcinogen:

NTP:	No
IARC Monographs:	No
OSHA Regulated:	No

H.M.I.S. Rating:

Health:	3 (indicates chronic or delayed health hazards)
Flammability:	2
Reactivity:	0

7. Emergency First Aid Procedures

Eye Contact: Immediately flush eyes with plenty of water. Get medical attention.

Skin: Immediately flush skin with soap and water. Get medical attention if irritation or burn develops.

Inhalation: Remove to fresh air. If not breathing, give artifical respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: If large quantities of the material are swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

8. Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Rleased or Spilled: Scoop up excess material and clean with soap and water.

Waste Disposal Method: In accordance with all local, state, and federal regulations.

Precautions to be Taken in Handling and Storage: Avoid direct contact with this material. Use only with adequate ventilation. Keep lid tightly closed except when removing product. Store at ambient temperatures.

9. Control Measures

Respiratory Protection: NIOSH approved if TLV is exceeded.

Ventilation: Local Exhaust – Yes; Mechanical (General) – Yes

Protective Gloves: Chemical resistant

Eye Protection: Safety glasses

Other Protective Clothing or Equipment: Clothing to prevent skin contact.

Work/Hygienic Practices: Wash thoroughly after handling with this product. See American National Standard Z49.1 (Safety in Welding and Cutting) published by the American Welding Society.

10. Regulatory Information

Hazardous Substances – Section 302.4 (40 CFR Part 302):

This product as packaged does not contain any hazardous substance equal to or greater than the Reportable Quantity.

Toxic Chemicals – Section 313 (40 CFR Part 372):

CHEMICAL	CAS #	PERCENT
Silver	7440-22-4	44 - 49
Copper	7440-50-8	20 - 23
Zinc	1314-13-2	11.0

Hazard Categories – 311 / 312 (40 CFR Part 370):
Immediate Health: X
Delayed Health: X
Fire: X
Reactive:
Sudden Release of Pressure:

11. Disclaimer

Although the information and recommendations in this data sheet are to the best of our knowledge correct, it is recommended that you make your own determination of the material's suitability for your purpose before you use it. The information contained in this data sheet has been reproduced from the manufacturer's data; the accuracy of this information is the responsibility of the manufacturer. Phoenix Orthodontics accepts no responsibility for damage of any nature resulting from the use of, or the reliance upon, this data sheet.