HOLDEN BOND

MATERIAL SAFETY DATA SHEET

MSDS Name: **HOLDENBOND** Bronze Putty (BR)

Manufacturer Name: **AWEE Supply & Trading**

Stock No.: 10105

Components:

BRONZE PUTTY (BR)

PRODUCT AND COMPANY IDENTIFICATION

Product Name: **BRONZE PUTTY (BR) RESIN**

Product Code: 10105

Manufacturer Name: **AWEE Supply & Trading**

MSDS Revision Date: 10/08/2008

Emergency telephone number **+65 965 23324**

COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	
Copper	7440-50-8	60 - 100 by Weight
Zinc	7440-66-6	5 - 10 by Weight
Bisphenol A diglycidyl ether resin	25068-38-6	10- 30 by Weight
12-hydroxy-octadecanoic acid glyceride	555-43-1	1 – 5 by Weight
Non-hazardous ingredients.	N/A	0.1-1 by Weight

HAZARDS IDENTIFICATION

Emergency Overview:	WARNING! Potential Sensitizer. Irritant.
Primary Routes of Exposure:	Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye Contact:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and Permanent injury..
Skin Contact:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Chronic Health Effects:	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

FIRE FIGHTING MEASURES

Auto Ignition Temp :	Not determined.
Flash Point:	>400°F (204°C)
Flash Point Method:	Pensky-Martens Closed Cup
Lower Explosive Limit (LEL)	Not determined.
Upper Explosive Limit (UEL)	Not determined
Extinguishing Media:	Use carbon dioxide (CO_2) or dry chemical when fighting fires involving this material
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Unsuitable Media:	Water or foam may cause frothing.

ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Other Precautions:	Pump or shovel to storage/salvage vessels.

HANDLING AND STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding / flame cutting operations and to protect against dust during sanding / grinding of cured product.

EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

Copper :

Guideline ACGIH:	ACGIH TLV – TWA 1 mg/m3
Guideline OSHA :	OSHA PEL-TWA 15 mg/m3
Notes	Only established PEL and TLV values for the ingredients are listed below.

PHYSICAL AND CHEMICAL PROPERTIES

Physical State/Appearance:	Paste.
Color:	Bronze.
Odor:	Slight oder.
Boiling Point:	>500°F (260°C)
Melting / Freezing Point :	Not determined.
Solubility:	Negligible
Specific Gravity:	2.6
pH:	Neutral.
Vapor Density:	>1 (air = 1)
Vapor Pressure:	0.03 mmHg @171°F(77°C)
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Percent Volatile:	0
VOC Data :	0 g/L
Percent Solids by Weight	100

STABILITY AND REACTIVITY

Chemical Stability	Stable under normal temperatures and pressures.
Conditions to Avoid:	Extreme heat, sparks, and opens flame. Incompatible materials, oxidizers and oxidizing conditions. Heating resin above 300 F in the presence of air may cause slow oxidative decomposition
Incompatibilities with Other Materials:	Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).
Hazardous Polymerization:	Not reported.

TOXICOLOGICAL INFORMATION

Copper:

Ingestion Effects:	Oral - Human TDLo - Lowest published toxic dose: 0.01 mg/kg - [Gastrointestinal - hypermotility, diarrhea Gastrointestinal - nausea or vomiting](RTECS)

Zinc:

Skin Effects:	Skin - Human Standard Draize Test : 300 ug/3D-I - [mild](RTECS)
Inhalation Effects :	Inhalation - Human TCLo - Lowest published toxic concentration: 124 mg/m3/50M - [Lungs, Thorax, or Respiration - cough Lungs, Thorax, or Respiration - dyspnea Skin and Appendages - sweating] (RTECS)
Ingestion Effects:	Oral - Rat LD50: 22500 uL/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS)

Bisphenol A diglycidyl ether resin:

Skin Effects:	Skin - rat LD: >2 gm/kg - [Nutritional and Gross Metabolic - other changes] (RTECS)
Ingestion Effects:	Oral - Rat LD: >5 gm/kg - [Nutritional and Gross Metabolic - other changes](RTECS)

ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines
RCRA Number :	None.

TRANSPORT INFORMATION

DOT Shipping Name:	Non regulated.
DOT UN Number:	N/A
DOT Hazard Class:	Not applicable.
DOT Packing Group:	Not applicable.

REGULATORY INFORMATION

Copper :

EC Num:	030-001-00-1
Bisphenol A diglycidyl ether resin:	
EC Num :	603-074-00-8

ADDITIONAL INFORMATION

HMIS Health Hazard:	2*
HMIS Fire Hazard:	1
HMIS Reactivity:	0
HMIS Personal Protection:	x
MSDS Revision Date:	10/08/2008
Disclaimer:	"This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment."