



MATERIAL SAFETY DATA SHEET

MSDS Name: **BRONZESHIELD PART 2 (HARDENER)**

MSDS Number: SH-12339

Version Number

MSDS Date: OCT-25-2012

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SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: BRONZESHIELD PART 2
Hazard Rating: Health: 2 Fire: 3 Reactivity: 0 PPI:

Company Identification: Ceramic Industrial Coatings
325 Highway 81
Osseo MN 55369

Contact: SUE THILLMAN
Telephone/Fax: 763-424-2044 763-424-1014
Chemtrec (24 Hour): 1-800-424-9300

Product Class: URETHANE HARDENER
Trade Name
Product Code: SH-12339
Shipping Name: PAINT RELATED MATERIAL, 3, UN 1263, PG II

SECTION II - INGREDIENT AND HAZARD INFORMATION

Ingredient Name	CAS Number	Percent	TSCA
TERT BUTYL ACETATE	540-88-5	40 - 70	N
HEXAMETHYLENE DIISOCYANATE	28182-81-2	15 - 40	
ETHYL 3-ETHOXYPROPIONATE	763-69-9	1 - 5	

SECTION III - PHYSICAL DATA

Form: LIQUID
Appearance/Color: CLEAR
pH Value: Not Applicable
Boiling Range: 545.0F
Evaporation Rate:
Vapor Density: Heavier than air

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% Volatile Weight CALCULATED 65.85%
% Volatile / Volume CALCULATED 72.09%
Specific Gravity: 0.94793
VOC 0.26#/GALLON

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class
Flash Range: 379.4øF
 Setaflash

EXTINGUISHING MEDIA:

Foam, CO2, Dry Chemical.

SPECIAL FIREFIGHTING PROCEDURES:

Full emergency equipment with self-contained breathing apparatus should be worn. During a fire irritating and highly toxic gases (see reactivity data) and smoke are present from the decomposition / combustion products. Isolate from heat, electrical equipment, sparks, and open flame.

UNUSUAL FIRE & EXPLOSION HAZARDS:

Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO2 evolved). Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source which may result in a flash back to the source of the vapors.

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL:

Undetermined.

EFFECTS OF OVEREXPOSURE:

Animal Toxicity - Other: (Similar product)
Respiratory effects (mice) sensory and pulmonary irritation.
(Polyisocyanate)
Ames Test - Negative. (Polyisocyanate)

Human Effects of Overexposure: To vapor and/or mist: Can cause irritation to skin, eyes and respiratory tract (Nose, throat, lungs) Symptoms may be watering of eyes, dryness of throat, coughing, headache, tightness in chest or burning sensation.
Allergic skin or respiratory reaction

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may occur in some individuals.

Respiratory

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sensitivity results in asthma-like symptoms on subsequent exposures even below the TLV. Skin sensitivity results in allergic dermatitis which may include rash, itching, hives and swelling of extremities. Headache, dizziness or nausea may be experienced by some as a result of exposure to solvents.

FIRST AID:

EyeContact: Flush with clean, lukewarm water (low pressure) for at least 15 minutes, occasionally lifting eye lids. Obtain medical attention.

Skin Contact: Remove contaminated clothing. Wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before re-use.

Inhalation: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention.

Ingestion: Consult a physician.

Note to Physician: Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include pre-employment and periodic medical examinations with respiratory function tests (FEV, FVC, as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate no further exposure can be permitted.

SECTION VI - STABILITY AND REACTIVITY

Stability: This product is stable

Hazardous Polymerization: Hazardous polymerization will not occur

INCOMPATABILITY:

Materials to avoid: Avoid contact with water, alcohols, amines, strong bases, metal compounds or surface active materials.

CONDITIONS TO AVOID:

Contact with moisture and other materials which react with isocyanate. Temperature above maximum storage temperature.

HAZARDOUS DECOMPOSITION PRODUCTS:

By fire: CO₂, CO, Oxides of nitrogen, traces of HCN, HDI.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

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Evacuate non-essential personnel. Remove all sources of ignition. Ventilate the area. Equip clean-up crew with appropriate protective equipment (See employee protection recommendations). Dike or impound spilled material and control further spillage if feasible. Notify appropriate authorities if necessary. Cover spill with sawdust, vermiculite, Fuller's earth or other absorbent material; pour liquid decontaminant over spillage -- allow to react at least 10 min., collect material in open containers -- add further amounts of decontamination solution. Remove containers to safe place. Cover loosely. Wash down area with liquid decontaminant and flush area with water. Decontamination solutions: Ammonium Hydroxide (0-10%), detergent (2-5%) and balance water; or solution of Union Carbide's Tergitol TMN-10 (20%) and water (80%).

WASTE DISPOSAL METHOD:

Dispose of in accordance with Federal, State and Local

regulations. SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
TERT BUTYL ACETATE	200.00 PPM	N/est	N/est	N/est	200.00 PPM
HEXAMETHYLENE DIISOCYANATE	0.01 PPM	N/est	N/est	N/est	N/est
ETHYL 3-ETHOXYPROPIONATE	N/est	N/est	N/est	N/est	N/est

RESPIRATORY PROTECTION:

Exhaust ventilation sufficient to keep the airborne concentrations of HDI below the suggested TLV must be utilized. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. In addition a respirator that is recommended or approved for use in isocyanate containing environments (air purifying or fresh air supplied) may be necessary. Consider type of application and environmental concentrations. Observe OSHA regulations for respirator use (29 CFR 1910.134). In spray applications, when airborne isocyanate monomer concentrations are known to be below 0.2 PPM and if the polyisocyanate (polymeric oligomer) concentrations are known to be below 10 MG/M3, a properly fitted air-purifying

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(combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing spray paint environments will provide sufficient protection. When the airborne isocyanate concentrations are not known, or if either of the above guidelines is exceeded, or if spraying is performed in a confined space or area with limited ventilation, the use of a positive pressure supplied air respirator is mandatory. Even during non-spray operations such as mixing, brush or roller application, etc., depending on the conditions (for example, heating of material or application to a hot substrate), it is possible to be exposed to air borne solvent or isocyanate vapors. Therefore, when airborne concentrations during such non-spray operations exceed the suggested TLV of 0.02 PPM for isocyanate monomer, but are below 0.2 PPM, at least an air purifying (organic vapor) respirator is required. If airborne concentrations are unknown or if they exceed 0.2 PPM, or operations are performed in a confined space, a supplied air respirator must be worn. In addition, solvent concentrations should be considered when determining the selection and use of a respirator. Refer to Patty's Industrial Hygiene and Toxicology-Volume 1 (3rd Edition) Chapter 17 and Volume III (1st Edition) Chapter 3 for guidance concerning appropriate air sampling strategy to determine airborne concentrations.

PROTECTIVE GLOVES:

Chemical resistant gloves. Cover as much of the exposed skin as possible with appropriate clothing. If skin creams are used, keep the area protected only by the cream to a minimum.

EYE PROTECTION:

Safety glasses, splash goggles or face shield. Contact lenses should not be worn.

OTHER PROTECTIVE EQUIPMENT:

Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Keep away from heat, sparks and open flame. Store in tightly closed container and protect from moisture and foreign materials. At maximum storage temperatures noted, material may slowly polymerize without hazard. Ideal storage temperature range is 50-81 degrees F. (10-27 C)

OTHER PRECAUTIONS:

For additional information refer to label and other product literature

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DISCLAIMER:

The data contained herein is believed to be correct. However, since conditions of use are outside our control it should not be taken as a warranty or representation for which Ceramic Industrial Coatings assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.

Seller's liability for it's products shall be limited to the return of the amount of the purchase price paid by the purchaser. Under no circumstances shall seller be liable for special, indirect or consequential damages.

SECTION X - REGULATORY INFORMATION
