

# B. D. CLASSIC ENTERPRISES, INC.

DATE OF PREPARATION 07/01/05

## Material Safety Data Sheet

### SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME: LIQUID MARBLE HARDENER**

**CHEMICAL NAME AND/OR FAMILY DESCRIPTION: MIXTURE**

**SYNONYMS: NONE**

**CHEMICAL FAMILY: CYCLOALIPHATIC AMINE**

**EMPIRICAL FORMULA: MIXTURE**

**INTENDED USE: EPOXY, CURING AGENT**

**COMPANY INFORMATION:**                      **B.D. CLASSIC ENTERPRISES**  
**12903 SUNSHINE AVE.**  
**SANTA FE SPRINGS, CA 90670**  
**TELEPHONE # (562) 944-6177**  
**CHEM TREC # 800-424-9300**

#### EMERGENCY OVERVIEW:

**HMIS HEALTH RATING 3              FLAMMABILITY 1 REACTIVITY 0**

**Physical form: Viscous liquid**

**Color: Colorless**

**Odor: Ammoniacal**

**Hazards: Harmful if swallowed. Corrosive to eyes. Corrosive to skin. Severe eye irritant. Severe respiratory tract irritant. Severe skin irritant. May cause skin sensitization.**

**Extinguishing Media: Ignition will give rise to a Class B fire. In case of large fire use Alcohol foam, water spray. In case of small fire use carbon dioxide (CO2), dry chemical, dry sand or limestone.**

### SECTION 2 INGREDIENTS

#### COMPOSITION:

CHEMICAL NAME	CAS	%
Benzyl Alcohol	100-51-6	<40
Isophoronediamine (IPD)	2855-13-2	<35
Trimethylhexamethylenediamine (TMD)	25620-58-0	
<10		

The remaining components are trade secret.

**LIQUID MARBLE HARDENER  
MATERIAL SAFETY DATA SHEET**

**07/01/05**

**OSHA (ACGIH) EXPOSURE LIMITS**

CAS #	TWA		STEL		CEILING		ppm	N/E
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	mg/m <sup>3</sup>	ppm		
100-51-6	N/E	(N/E)	N/E	(N/E)	N/E	(N/E)	(N/E)	N/E
2855-13-2	N/E	(N/E)	N/E	(N/E)	N/E	(N/E)	(N/E)	N/E
25620-58-0	N/E	(N/E)	N/E	(N/E)	N/E	(N/E)	(N/E)	N/E

N/E = Not established. All values in ( ) are U.S. ACGIH (American Conference of Government Industrial Hygienists) – TLV; All others are OSHA – PEL.

**SECTION 3 HAZARD IDENTIFICATION**

**ROUTES OF EXPOSURE:**

- Eye Contact
- Ingestion
- Skin Absorption
- Skin Contact

**EXPOSURE STANDARDS:**

- No standards established for the product.
- Maintain air contaminant concentrations in the workplace at the lowest feasible levels.

**HEALTH HAZARDS:**

- Harmful in swallowed.
- Corrosive to eyes.
- Corrosive to skin.
- Severe eye irritant.
- Severe respiratory tract irritant.
- Severe skin irritant.
- May cause skin sensitization.

**TARGET ORGANS**

- Eye
- Skin
- Respiratory system

**SIGNS AND SYMPTOMS OF EXPOSURE (Acute Effects)**

Burns of the eye may cause blindness. Contact with the skin may cause dryness (defatting), itching and/or rash. Inhalation of vapors may cause irritation in the respiratory tract. Contact of undiluted product with the eyes or skin quickly causes severe irritation and pain and may cause burns, necrosis and permanent injury. Inhalation of aerosols and mists may severely damage contacted tissue and product scarring. Product is absorbed through the skin and may cause nausea, headache and general discomfort.

**SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects)**

- Repeated and/or prolonged exposure may cause allergic reaction/sensitization.
- Repeated and/or prolonged exposures may result in: adverse respiratory effects (such as cough,

**LIQUID MARBLE HARDENER  
MATERIAL SAFETY DATA SHEET**

**07/01/05**

tightness of chest or shortness of breath); adverse skin effects (such as irritation, rash, or corrosion); adverse eye effects (such as conjunctivitis or corneal damage).  
Dryness of nasal passages may be experienced when material is inhaled over a long period of time.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:**

Asthma  
Chronic respiratory disease (e.g. Bronchitis, Emphysema)  
Eye disease  
Skin Disorders and Allergies.

**CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER**

This product contains no carcinogens in concentrations of 0.1 percent or greater.

**SECTION 4 FIRST AID MEASURES**

**EYES:** Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice.

**SKIN:** Remove product and immediately flush affected area with water for at least 15 minutes. Remove contaminated clothing and shoes. Destroy contaminated leather apparel. Cover the affected area with a sterile dressing or clean sheeting and transport for medical care. Do not apply grease or ointments. Control shock, if present. Launder contaminated clothing prior to reuse.

**INGESTION:** In the event of ingestion, administer 3-4 glasses of milk or water. **DO NOT INDUCE VOMITING.** Seek medical advice.

**INHALATION:** Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated. Prevent aspiration of vomit. Turn victim's head to the side. Seek medical advice.

**SECTION 5 FIRE – FIGHTING MEASURES**

**CHARACTERISTICS:**

**FLASH POINT (closed cup)** >93.33C (>199.99F)

**UPPER EXPLOSION LIMIT (UEL)** No Data

**LOWER EXPLOSION LIMIT (UEL)** No Data

**AUTOIGNITION TEMPERATURE** No Data

**FIRE HAZARD CLASSIFICATION (OSHA/NFPA)** Class IIIB

**EXTINGUISHING MEDIA:** Ignition will give rise to a Class B fire. In case of large fire use: water spray, alcohol foam. In case of small fire use: carbon dioxide (CO<sub>2</sub>), dry chemical, dry sand or limestone.

**SPECIAL FIRE FIGHTING PROCEDURES:** A face shield should be worn. Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus. Retain expended liquids from fire fighting for later disposal.

**UNUSUAL OR EXPLOSIVE HAZARDS:** May generate toxic or irritating combustion products. Contact of liquid with skin must be prevented. Sudden reaction and fire may result if product is mixed with an oxidizing agent. May generate carbon monoxide gas. May generate toxic nitrogen oxide gases. May generate ammonia gas. Personnel in vicinity and downwind should be evacuated.

**LIQUID MARBLE HARDENER  
MATERIAL SAFETY DATA SHEET**

**07/01/05**

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC AT 800-424-9300.**

**CONTAINMENT TECHNIQUES (Removal of ignition sources, diking, etc.): Stop the leak, if possible. Reduce vapor spreading with a water spray. Shut off or remove all ignition sources. Construct a dike to prevent spreading (includes molten liquids until they freeze).**

**CLEAN-UP PROCEDURES: If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Flush area with water spray. Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.**

**OTHER EMERGENCY ADVICE: Wear protective clothing, boots, gloves, and eye protection.**

**SECTION 7 HANDLING AND STORAGE**

**Precautions to be Taken In**

**Handling: Handle in well ventilated work space. Avoid breathing of vapors. Avoid contact with skin or eyes. When handling, do not eat, drink, or smoke.**

**Storage: Keep away from: acids, oxidizers. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Keep away from oxidizers, heat or flames. Do not store in reactive metal containers. Keep in cool, dry, ventilated storage and in closed containers.**

**Other Precautions: Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA). Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Cancer-causing nitrosamines could be formed.**

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Protection Equipment (Type)**

**Eye/Face Protection: Full face shield with goggles underneath.**

**Hand Protection: Neoprene rubber gloves. Impermeable gloves. Cuffed butyl rubber gloves. Nitrile rubber gloves.**

**Respiratory Protection: Not required under normal conditions in a well-ventilated workplace.**

**Protective Clothing: Impervious clothing. Slicker Suit, Rubber boots. Full rubber suit (rain gear). Butyl or latex protective clothing.**

**Engineering Controls: No specific controls needed.**

**Work and Hygienic Practices: Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Use appropriate hand and skin lotions to protect the skin. Discard contaminated leather articles.**

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**LIQUID MARBLE HARDENER  
MATERIAL SAFETY DATA SHEET**

07/01/05

<b>Physical Form:</b>	<b>Viscous Liquid</b>
<b>Appearance:</b>	<b>Colorless</b>
<b>Odor:</b>	<b>Ammoniacal</b>
<b>Boiling Point (degrees C):</b>	<b>205.00C (401.00F)</b>
<b>Melting/Freezing Point (degrees C):</b>	<b>No Data</b>
<b>Specific Gravity (water=1):</b>	<b>0.99</b>
<b>pH:</b>	<b>Alkaline</b>
<b>Vapor Pressure:</b>	<b>&lt;1.00000</b>
<b>Vapor Density (Air = 1):</b>	<b>No data</b>
<b>Solubility in Water (%):</b>	<b>&lt;1.00%</b>
<b>Molecular Weight:</b>	<b>Mixture</b>

**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** Stable

**Conditions To Avoid (if unstable):** Not applicable

**Incompatibility (Materials to Avoid):** Mineral acids (i.e. sulfuric, phosphoric, etc.) Organic acids (i.e. acetic acid, citric acid, etc.). Oxidizing Agents (i.e. perchlorates, nitrates, etc.) Reactive metals (i.e. sodium, calcium, zinc, etc.) sodium or Calcium Hypochlorite. **CAUTION:** N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive with hydroxyl compounds. Nitrites, nitrosating agents. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material.

**Hazardous Decomposition Products (from burning, heating, or reaction with other materials):** Carbon Monoxide in a fire; Carbon Dioxide in a fire; Ammonia when heated; Nitrogen Oxides in a fire. Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. Nitrosamines. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic.

**Hazardous Polymerization:** Will not occur.

**Conditions To Avoid (if polymerization may occur):** Not applicable.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY EFFECTS DATA:** Oral LD50 (rat): 1000.00 mg/kg (estimate)

**ACUTE DERMAL TOXICITY (LD50, RABBIT):** >2800.00 MG/KG (estimate)

**ACUTE INHALATION TOXICITY (LC50, RAT):** No data

**OTHER DATA:** Toxicity data from similar products.

**OTHER ACUTE EFFECTS:** No data

**IRRITATION EFFECTS DATA:** Corrosive to the eyes of a rabbit. Severe irritant to the skin of a rabbit.

**LIQUID MARBLE HARDENER  
MATERIAL SAFETY DATA SHEET**

**07/01/05**

**CHRONIC/SUBCHRONIC DATA:** No delayed, subchronic or chronic test data are known.

**SECTION 12 ECOLOGICAL INFORMATION**

**Ecotoxicity:** No Data

**Environmental Fate:** 2855-13-2 ISOPHORONEDIAMINE; Biodegradable  
3236-53-1 TRIMETHYLHEXAMETHYLENEDIAMINE:  
Biodegradable

**Additional Information:** No Data

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste Disposal Methods:** Comply with all Federal, State and Local Regulations.

**SECTION 14 TRANSPORTATION INFORMATION**

**DOT NON-BULK SHIPPING NAME:** Amines, liquid, corrosive, n.o.s. (Trimethyl-  
hexamethylenediamines)// 8//UN2735//PGII

**DOT BULK SHIPPING NAME:** Refer to Bill of Lading

**IMO SHIPPING NAME:** Refer to Bill Of Lading

**ICAO/IATA SHIPPING DATA:** Amines, liquid, corrosive, n.o.s. (Trimethyl-  
hexamethylenediamines)// 8//UN2735//II//  
shipment per 49 CFR 171.11

**SECTION 15 REGULATORY INFORMATION**

**US FEDERAL REGULATIONS:**

**Toxic Substances Control Act (TSCA):** All components are included in the EPA Toxic Substance Control Act (TSCA) Chemical Substance inventory.

**OSHA Hazard Communication Standard (29CFR1910.1200 Hazard Class(es):** Corrosive. Sensitizer.

**EPA SARA Title III Section 312 (40CFR370) Hazard Class:** Immediate Health Hazard. Delayed health hazard.

**EPA SARA Title III Section 313 (40CFR370) Toxic Chemicals Above “de minimis” level are:** NONE

**State Regulations:**

**PROPOSITION 65 SUBSTANCES component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the “Safe Drinking Water and Toxic Enforcement Act of 1986”:** None

**NEW JERSEY TRADE SECRET REGISTRY NUMBER(S):** 05995500-(H2074U)

**SECTION 16 INTERNATIONAL REGULATIONS**

**LIQUID MARBLE HARDENER  
MATERIAL SAFETY DATA SHEET**

**07/01/05**

**CANADA**

**DSL: Included on Inventory**

**WHMIS Hazard Classification: Class D Division 2B, Class E Corrosive**

**WHMIS Trade Secret Registry Number(s): 1135-007**

**WHMIS Hazardous Ingredients: Isophoronediamine (IPD)  
Trimethylhexamethylenediamine (TMD)  
Benzyl Alcohol**

**WHMIS Symbols: Test tube/hand, Stylized T**

**EUROPEAN ECONOMIC COMMUNITY (EEC):**

**EINECS/ELINCS MASTER INVENTORY: Included on EINECS inventory or  
polymer substance, monomers included on EINECS inventory or no longer  
polymer**

**EEC Symbol: Corrosive (C)**

**EEC Risk and Safety Phrases:**

**Harmful by inhalation and in contact with skin and if swallowed (R20/21/22).**

**In case of accident or if you feel unwell, seek medical, seek medical advice immediately  
(show the label where possible) (S45)**

**In case of contact with eyes, rinse immediately with plenty of water and seek**

**Medical advice (S26). Wear suitable protective clothing, gloves and eye/  
Face protection (S36/37/39).**

**AUSTRALIA AICS: Included on Inventory.**

**JAPAN MITI: Not on Inventory**

**PHILIPPINES PICCS: Included on Inventory**

**KOREA ECL: Included on Inventory**

**CHINA SEPA: Included on Inventory**

**SECTION 17 OTHER INFORMATION 1/13/99**

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of B. D. Classic Enterprises, Inc. Product Safety Program. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information obtained herein. Data sheets are available for all B. D. Classic products. You are urged to obtain data sheets for all B. D. Classic products you buy, process, use or distribute and you are encouraged and requested to advise those who may come in contact with such products of the information contained therein.

To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. B. D. Classic does not undertake to furnish advice on such matters.