

MATERIAL SAFETY DATA SHEET

October 10, 2011

SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME: DuraBase Liquid **CHEMICAL NAME:** Methyl Methacrylate Monomer Stabilized
MANUFACTURER: Reliance Dental Mfg., Co., 5805 W. 117th Place, P.O. Box 38, Worth, IL 60482
TELEPHONE: For Product Information: 708-597-6694 For Medical Information: 800-535-5053

SECTION II - HAZARDOUS INGREDIENTS

Components Material: Methyl Methacrylate **CAS NUMBER:** 80-62-6 **%:** 100
PEL (OSHA): 100 ppm, 410 mg/m³, 8 Hr. TWA **TLV (ACGIH):** 100 ppm 410 mg/m³, 8 Hr. TWA
INEOS recommended: 50 ppm, 205 mg/m³, 8 Hr. TWA; 100 ppm, 410 mg/m³ 15 min.

SECTION III - PHYSICAL DATA

Form: Mobile liquid **Color:** Clear, colorless **Odor:** Characteristic strong and acrid odor **Odor Threshold:** 0.5 - 1 ppm
Boiling Point: 100.5 deg. C at 760 mm/Hg **Melting Point:** -48 deg. C **Vapor Pressure:** 28 mm/Hg at 20 deg. C **Density:** 0.949 g/ml at 15.5 deg. C
Solubility in Water: 1.6 WT% (20 deg. C) **Solubility (Other):** Miscible with most organic solvents **Partition Coefficient:** 1.38 **Vapor Density (Air 1):** 3.5

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point: 11.5 deg. C **Flammable Limits in air, % by Volume:** Lower Limit - 2.1 Upper Limit - 12.5
Autoignition Temperature: 421 deg. C, Fine mists are explosive below the flash point. Flammable Liquid. Vapor forms explosive mixture with air. **Extinguishing Media:** Foam, Dry Chemical, CO₂. Water spray (by trained personnel). **Special Fire Fighting Procedures:** Keep personnel removed and upwind of fire. Full protective equipment, including self-contained breathing apparatus, is recommended. Cool containers of material with cold water spray. Fight fires from a safe distance or protected areas.
Transportation information (DOT): I.D. #: UN1247; Hazard Class 3; Packing Group II; HMIS: H = 2, F = 3, R = 2

SECTION V - HEALTH HAZARD DATA

Eye: Liquid and vapors can cause moderate irritation (tears, blurred vision and redness). **Ingestion:** Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain. **Inhalation:** High concentration is irritant to the respiratory tract and may cause dizziness, head ache and anesthetic effects. **Chronic (cancer) Information:** Prolonged and/or repeated exposure may lead to kidney, lung, liver, and heart damage. Unlikely to present a cancer hazard to man. **Teratology (Birth Defect) Information:** Developmental toxicity observed in animal tests but only at levels toxic to the mother. **Reproductive Information:** No information available but no adverse reproductive effects are anticipated.
FIRST AID: **Inhalation** - If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. **Skin Contact** - In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse. **Eye Contact** - In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. **Ingestion** - If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

SECTION VI - REACTIVITY DATA

Stability - Unstable with heat. **Incompatibility with Other Materials** - Incompatible with oxidizing and reducing agents. Materials is a strong solvent and can soften paints and rubber. **Decomposition** - Decomposes with heat. Hazardous gases/vapors produced are carbon monoxide, carbon dioxide and smoke. **Other Hazardous** - Polymerization can occur. Conditions leading to polymerization are excessive heat, storage in absence of inhibitor, and inadvertent addition of catalyst. Contamination of product may also cause hazardous polymerization.

SECTION VII - SPILL OR LEAK PROCEDURES

Safeguards: Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. **Initial Containment:** Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas. **Spill Clean Up:** Soak up with sand, oil dry or other absorbent, non-combustible material. Cleaned-up materials is a RCRA Hazardous Waste.

Waste Disposal Method: Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Incinerate material in accordance with Federal, State/Provincial and Local requirements. Do not incinerate in closed containers. Do not allow materials to contaminate ground water systems.

SECTION VIII: SPECIAL PROTECTION INFORMATION

Eye/Face Protection: Wear safety glasses. Wear overall chemical splash goggles and face shield when possibility exists for eye and face contact due to splashing or spraying materials. **Respirators:** A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain limited 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. **Protective Clothing:** Wear impervious clothing to prevent any contact with this product, such as gloves, apron, boots, or whole body suit. Nitrile rubber is better than PVC.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks, flame, direct sunlight, and elevated temperatures. Close containers after each use. Wash thoroughly after handling and before eating or smoking.

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SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME: DuraBase Powder **CHEMICAL NAME:** Poly Methyl Methacrylate
MANUFACTURER: Reliance Dental Mfg., Co., 5805 W. 117th Place, P.O. Box 38, Worth, IL 60482
TELEPHONE: For Product Information: 708-597-6694 For Medical Information: 800-535-5053

SECTION II - HAZARDOUS INGREDIENTS OF MIXTURES

HAZARDOUS COMPONENT	CAS REG. NO.	%	TLV	(UNITS)	PEL	(UNITS)
Particulates NOC	NE	< 99	10	mg/m ³	15	mg/m ³
Residual Monomers	NA	< 1	NA		NA	
DialkylPhthalate	84-66-2	< 15	5	mg/m ³	5	mg/m ³
Trade Secret	NA	< 5	10	mg/m ³	6	mg/m ³

SECTION III - PHYSICAL DATA

BOILING POINT: NA **SPECIFIC GRAVITY** (h₂O=1): 1.25 **VAPOR PRESSURE:** NA
PERCENT VOLATILE W/W%: NA **VAPOR DENSITY** (AIR=1): NA **EVAPORATION RATE** (=1): NA
SOLUBILITY IN WATER: Insoluble **APPEARANCE & ODOR:** Fine white powder. Faint odor in bulk.

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 304°C/ 580°F **FLAMMABLE LIMIT AIR VOL%:** Lower - NA Upper - NA **AUTOIGNITION TEMPERATURE:** NE **EXTINGUISHER METHOD:** Water, carbon dioxide, dry chemical. **SPECIAL FIRE FIGHTING PROCEDURES:** Avoid extinguishing methods which may generate dust clouds. Water stream can disperse dust into air, producing a fire hazard and possible explosion hazard if exposed to ignition source. **UNUSUAL FIRE AND EXPLOSION HAZARDOUS:** Polymer dust is combustible. The explosive limits of the polymer particles suspended in air are approximately those of coal dust. Firefighters should wear self-contained breathing apparatus.

SECTION V - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Eyes or skin (no absorption); inhalation of dusts. **CARCINOGENICITY:** None of the components of this material are listed by IARC, NTP, OSHA, OR ACIGH as carcinogens.
TARGET ORGANS: For Polymer: None Listed. For decomposition product Methyl Methacrylate Monomer: Nose, liver, and kidneys. For Dialkyl Phthalate: None Listed. For Trade Secret: None Listed. **EFFECTS OF OVER EXPOSURE:** It is not known to cause significant health problems. OSHA classifies this material as particulates not otherwise classified. Avoid inhalation of dust. Keep dust out of eyes to prevent possible irritation. **EMERGENCY AND FIRST AID PROCEDURES: INHALATION:** Remove to fresh air. Get medical help if discomfort persists. **EYES:** Flush with water for 15 minutes, including under eyelids. Get medical help if discomfort persists. **SKIN:** Wash with soap and water. Get medical help if discomfort persists. **INGESTION:** Rinse mouth out with water. Call doctor if amount was large. **CLOTHING:** Wash thoroughly before reuse. **TREATMENT:** Treat symptoms after thorough decontamination.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) RATING: Health: 1 Flammability: 1 Reactivity: 0
Personal Protective Equipment: Gloves and Safety Glasses or Chemical Splash Goggles.

SECTION VI - REACTIVITY DATA

STABILITY: Stable **CONDITIONS TO AVOID:** Heating above 240°C, 464°F. **INCOMPATIBILITY (MATERIALS TO AVOID):** Strong oxidizing agents. **HAZARDOUS DECOMPOSITION PRODUCTS:** Methacrylate Monomers and Oxides of Carbon when burned. **HAZARDOUS POLYMERIZATION:** Will not occur. **CONDITIONS TO AVOID:** High temperatures and strong oxidizing agents.

SECTION VII - SPILL OR LEAK PROCEDURE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep up to avoid slipping hazard. Keep airborne particulates at a minimum when cleaning up spills. **ENVIRONMENTAL EFFECTS: AQUATIC TOXICITY:** For Methyl Methacrylate Monomer: Estimate of 96 hours median Threshold limit (TLM₉₆): 100-1000 ppm. Flathead minnows and goldfish TLM₂₄: 420 ppm. Bluegills TLM₂₄: 368 ppm.; For Dialkyl Phthalate: 96 hours (96-h) LC₅₀, Flathead minnow: 10-100 ul/L. 96-h LC₅₀, Water flea: 10-100 ul/L; 75 mg/l. 48-h LC₅₀, Golden orfe (minnow): 53 mg/l 61 mg/l. **OXYGEN DEMAND:** For Dialkyl Phthalate: COD: 2.10 g/g; 1.66g/g. BOD: 2.00 G/G. **PLANT GERMINATION:** For Dialkyl Phthalate: No adverse effect at: Ryegrass: 10 ul/l/ Radish: 10 ul/l. Lettuce: 10 ul/l. **PLANT SEEDLING:** For Dialkyl Phthalate: No adverse effects at: Marigold: > 100 ul/l. Radish: > 100 ul/l. Corn: > 100 ul/l. Lettuce: > 100 ul/l. **WASTE DISPOSAL METHOD:** Contains a Dialkyl Phthalate, contaminated product may be a RCRA/OSHA hazardous waste (40 CFR Part 261 and 20 CFR Part 1910). Incinerate materials in accordance with Federal, State, and Local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): Use type for Particulates Not Otherwise Classified, if needed.
VENTILATION: Use good local exhaust at processing equipment, including buffers, sanders, grinders and polishers. **PROTECTIVE GLOVES:** If hot plastic is handled. **EYE PROTECTION:** Safety glasses or chemical splash goggles. **OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** High temperature processing equipment should be well ventilated.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in cool dry place. Keep container closed to prevent water absorption and contamination. **OTHER PRECAUTIONS:** Wash face and hands thoroughly with soap and water after use and before eating, drinking, smoking or applying cosmetics.