



## **R.B.D. (RAPID BONE DECALCIFER INSTRUCTIONS)**

**Item# DCR0257**

**(Revised 03/08/18)**

R.B.D. is a very rapid bone decalcifier. The acid component of R.B.D. reacts with calcium in mineralized tissues to form soluble calcium salts. The little extra care required in its use will result in routine sections with superb histological detail and staining characteristics in a fraction of the time required with other decalcifiers.

### **FOR IN VITRO DIAGNOSTIC USE**

#### **DIRECTIONS**

1. Tissues should be thoroughly fixed before decalcification. Most standard fixatives can be used prior to R.B.D. use. To insure adequate fixation and decalcification, specimens should be trimmed to less than 1 cm thickness. FORMALIN FIXATIVES AND R.B.D. DECALCIFER SHOULD NOT BE COMBINED.
2. Do not use metallic equipment or tissue cassettes for decalcification. R.B.D. corrodes most metals after long periods of exposure. Decalcified tissue may be placed in metallic equipment after washing.
3. DO NOT OVER DECALCIFER. R.B.D. action is very rapid. DO NOT leave bone specimen in R.B.D. for several days as required with other commercial decalcifiers. MOST SPECIMENS CAN BE DECALCIFER IN FOUR HOURS OR LESS. Use adequate volume of R.B.D. to tissue; 20:1 volume ratio of R.B.D. to tissue is recommended. The key determinations for time required for decalcification are size and density of the specimen. Most mature bones of 1cm size are decalcified in 4-6 hours; smaller cancellous bone in 2-4 hours. Bone biopsies are decalcified in 30-60 minutes. Teeth and entire femur heads may require overnight treatment. If R.B.D. action is too rapid, dilute with distilled water. Good results have been obtained in bone marrow biopsies with a 3:1 dilution (R.B.D. TO WATER). Determine the end point of decalcification using standard methods (e.g. X-ray, flexibility, chemical analysis).
4. Proceed with routine processing and embedding. Washing tissue prior to processing is optional.
5. Overexposure to R.B.D. can result in poor hematoxylin staining. If this occurs, satisfactory results can be obtained by treating deparaffinized slides prior to hematoxylin with aqueous saturated lithium carbonate (1-2 minutes) or 10% aqueous sodium bicarbonate (6-8 hours). Poor histological detail/artifacts (swelling, fragmentation) can also occur from excess decalcification. Hemosiderin is not removed by R.B.D.

#### **STORAGE AND DISPOSAL**

1. Store at room temperature. Keep container closed at all times. Store only in a glass or plastic container. Do not use metal containers as R.B.D. will irreversibly corrode aluminum, nickel and some stainless steel equipment.
2. After long periods of storage some change of color or an increase of suspended precipitate may occur. These are normal occurrences and do not affect the decalcifying potential of R.B.D. The precipitate may be allowed to settle or removed by filtration; however, neither action is necessary.
3. R.B.D. is readily biodegradable as received and may be disposed of down regular city sewer systems with a thorough water flush. Dispose R.B.D. according to federal, state and local regulations. Care should be taken to protect the finish of chrome plated plumbing fixtures.

#### **PRECAUTIONS**

Material as a whole should not be considered hazardous under normal use conditions. However, as with most reagents, our recommendations are to avoid extensive or repeated contact with skin. Avoid contact with eyes. Wash all exposed areas with soap and water. If swallowed, contact a physician immediately.

#### **A CHEMICAL TEST TO DETERMINE THE END POINT OF DECALCIFER**

1. Take 5ml of R.B.D. from the bottom of the decal container.
2. To this, add 5ml of 5% Ammonium Oxalate.
3. Add 5ml of 5% Ammonium Hydroxide.
4. Let this solution set for 15 minutes.
5. If there is a precipitate that forms in this solution, this indicates that decalcification is NOT complete and the specimen should remain in R.B.D.

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