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RESEARCH PRODUCTS

# Deuterated Reagents for Pharmaceutical and Synthetic Applications



Cambridge Isotope Laboratories, Inc. (CIL) offers over 15,000 stable isotope-labeled products for your synthetic applications, including the manufacturing of APIs. Many labeling patterns are available for common starting materials. For more than 35 years, CIL has offered:

- Expertise and quality service from initial quote request through delivery
- Flexibility of scale for custom and catalog products from milligram to multi-kilogram quantities
- cGMP capabilities for manufacturing raw materials and bulk APIs

In recent years, some pharmaceutical companies have begun to investigate deuteration of molecules that may provide advantages over their existing nondeuterated counterparts. In addition, increasing research into the potential medical benefits of new deuterated drugs is also occurring. The potential advantages of deuterated pharmaceuticals include:

**Improved metabolic profile.** The improved metabolic profile may potentially reduce or eliminate unwanted side effects or undesirable drug interactions.

**Improved oral bioavailability.** Deuteration in some compounds has reduced the presystemic metabolism that occurs in the digestive track, allowing more of the unmetabolized drug to reach its target.

**Increased half-life.** Deuterated compounds can have a slower pharmacokinetic effect, extending the absorption and distribution in the body. This may decrease the number of doses a patient may require in certain time period compared to its nondeuterated counterpart.

Catalog No.	Description
DLM-112	Acetaldehyde-d (D, 99%)
DLM-12RG*	Acetic acid-d <sub>4</sub> (D, 99%)
DLM-1556	Acetic acid-d (D, 98%)
DLM-1162	Acetic anhydride-d <sub>6</sub> (D, 98%)
DLM-9RG*	Acetone-d <sub>6</sub> (D, 99.5%)
DLM-247	Acetyl chloride-d <sub>3</sub> (D, 98%)
DLM-855	Acrylic-2,3,3-d <sub>3</sub> acid (D, 98%) (+ 0.1% 4-methoxyphenol) <5% H <sub>2</sub> O
DLM-710RG*	Ammonium deuteroxide-d <sub>5</sub> (D, 99%) ~25% sol in D <sub>2</sub> O
DLM-862	Aniline-ring-d <sub>5</sub> (D, 98%)
DLM-1RG*	Benzene-d <sub>6</sub> (D, 99%)
DLM-494	Biphenyl-d <sub>10</sub> (D, 98%)
DLM-1315	Borane-d <sub>3</sub> (D, 98%) (1 molar in THF) (+0.005M NaBD <sub>4</sub> )
DLM-4747	Borane-d <sub>3</sub> methylsulfide complex (D, 98%) (contains 10% additional dimethylsulfide)

Catalog No.	Description
DLM-398	Bromobenzene-d <sub>5</sub> (D, 99%)
DLM-874	Bromoethane-d <sub>5</sub> (D, 98%)
DLM-181	1,4-Butanediol-2,2,3,3-d <sub>4</sub> (D, 98%)
DLM-1664	<i>t</i> -Butanol-d <sub>10</sub> (D, 98%)
DLM-10515	<i>t</i> -Butyl acetate-d <sub>9</sub> (D, 99%)
DLM-1116	<i>t</i> -Butyl chloride-d <sub>9</sub> (D, 98%)
DLM-263	Chlorobenzene-d <sub>5</sub> (D, 99%)
DLM-7RG*	Chloroform-d (D, 99.7%)
DLM-337	Chloromethane-d <sub>3</sub> (D, 99%)
DLM-1560	Cyclohexanone-d <sub>10</sub> (D, 98%)
DLM-2781	Cyclopentyl bromide-d <sub>9</sub> (D, 98%)
DLM-1003DR	Deuterium (D, 99.96%) <400 ppm HD
DLM-408DR	Deuterium (D, 99.8%) (D <sub>2</sub> , 99.6% + HD, 0.4%)
DLM-458DR	Deuterium chloride (D, 99%)

\*RG = reagent grade CP = chemical purity

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Catalog No.	Description
DLM-3DR	Deuterium chloride (D, 99.5%) DCI 35% w/w solution in D <sub>2</sub> O
DLM-2	Deuterium chloride (D, 99.5%) DCI 20% w/w solution in D <sub>2</sub> O
DLM-4DR-99.8	Deuterium oxide (D, 99.8%)
DLM-4DR	Deuterium oxide (D, 99.9%)
DLM-195	1,2-Dibromoethane-d <sub>4</sub> (D, 99%)
DLM-158	1,2-Dichlorobenzene-d <sub>4</sub> (D, 99%)
DLM-265	Dimethyl-d <sub>6</sub> -amine-HCl (D, 98%)
DLM-3903	Dimethyl carbonate-d <sub>6</sub> (D, 99%)
DLM-196	Dimethyl sulfate-d <sub>6</sub> (D, 98%)
DLM-10RG*	Dimethyl sulfoxide-d <sub>6</sub> (D, 99.9%)
DLM-25	<i>N,N</i> -Dimethylformamide-d <sub>7</sub> (D, 99.5%)
DLM-1670	<i>N,N</i> -Dimethylformamide (formyl-D, 98-99%)
DLM-16	Ethanol-OD (D, 99%) <6% D <sub>2</sub> O
DLM-31	Ethanol-d <sub>6</sub> (D, 99%) anhydrous
DLM-9660	<i>N</i> -Ethylaniline-d <sub>10</sub> (D, 98%)
DLM-9626	<i>N</i> -Ethyl-d <sub>5</sub> -aniline (D, 98%)
DLM-347	Ethylene-d <sub>4</sub> (D, 98%)
DLM-805	Formaldehyde-d <sub>2</sub> (D, 98%) ~20% w/w in D <sub>2</sub> O
DLM-286	Formic acid-d <sub>2</sub> (D, 98%) <5% D <sub>2</sub> O
DLM-743	Formic acid (formyl-D, 98%) <5% H <sub>2</sub> O
DLM-423	<i>n</i> -Heptane-d <sub>16</sub> (D, 98%)
DLM-272	Iodoethane-d <sub>5</sub> (D, 99%) + copper wire
DLM-1023	Iodoethane-1,1-d <sub>2</sub> (D, 98%) + copper wire
DLM-1024	Iodoethane-2,2,2-d <sub>3</sub> (D, 98%) + copper wire
DLM-44	Isopropanol-d <sub>8</sub> (D, 99%)
DLM-1945	<i>bis</i> (2-Chloroethoxy)-d <sub>8</sub> methane (D, 98%)
DLM-1981	Methanesulfonic acid-d <sub>4</sub> (D, 97-98%)

\*RG = reagent grade CP = chemical purity

Catalog No.	Description
DLM-24RG*	Methanol-d <sub>4</sub> (D, 99.5%)
DLM-15	Methanol-OD (D, 99%)
DLM-10186	Methylboronic acid (methyl-D <sub>3</sub> , 98%) CP >90%
DLM-651	Methyl formate (formyl-D, 99%)
DLM-362	Methyl iodide-d <sub>3</sub> (D, 99.5%) + copper wire
DLM-1500DR	Methyl-d <sub>3</sub> -amine (D, 98%)
DLM-289	Methyl-d <sub>3</sub> -amine-HCl (D, 98%)
DLM-9707	Methyl-d <sub>3</sub> methanesulfonate (D, 98%)
DLM-23RG*	Methylene chloride-d <sub>2</sub> (D, 99.8%)
DLM-3484	Morpholine-2,2,3,3,5,5,6,6-d <sub>8</sub> (D, 98%)
DLM-295	2-Nitrophenol-ring-d <sub>4</sub> (D, 98%)
DLM-296	4-Nitrophenol-ring-d <sub>4</sub> (D, 98%)
DLM-619	Octanoic acid-d <sub>15</sub> (D, 98%)
DLM-300	Paraformaldehyde-d <sub>2</sub> (D, 99%)
DLM-370	Phenol-d <sub>6</sub> (D, 98%)
DLM-788	Phthalic anhydride-d <sub>4</sub> (D, 98%)
DLM-9813	Pivalic acid-trimethyl-d <sub>9</sub> (D, 98%)
DLM-3078DR	<i>N</i> -Propanol-d <sub>7</sub> (D, 98%)
DLM-9662	Pyrrolidine-2,2,3,3,4,4,5,5-d <sub>8</sub> (D, 98%)
DLM-226	Sodium borodeuteride-d <sub>4</sub> (D, 99%) CP 90-95%
DLM-45DR	Sodium deuterioxide (D, 99.5%) 40% in D <sub>2</sub> O
DLM-1361	Sodium formate (D, 98%)
DLM-8206	Sodium 2,2-dimethyl-2-silapentane-5-sulfonate-d <sub>6</sub> (DSS) (D, 98%)
DLM-33DR	Sulfuric acid-d <sub>2</sub> (D, 99%) 96-98% in D <sub>2</sub> O
DLM-36	Tetrahydrofuran-d <sub>8</sub> (D, 99.5%)
DLM-2729	Tetramethylsilane-d <sub>12</sub> (D, 98%)
DLM-5RG*	Toluene-d <sub>8</sub> (D, 99.5%)
DLM-46RG*	Trifluoroacetic acid-d (D, 99%)

Multiple sizes and quantity discounts are available; please inquire.

