Deuterium Reagents

封面的背面
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Introduction

In the field of chemistry, isotopes play a crucial role in understanding the behavior and reactions of various elements. Among these isotopes, deuterium, a stable and non-radioactive isotope of hydrogen, has emerged as a powerful tool for researchers and practitioners alike. Its unique properties and versatility have paved the way for significant advancements in a wide range of scientific disciplines.

This handbook serves as a comprehensive guide to the world of deuterium reagents, providing an extensive collection of information, protocols, and applications. It aims to support chemists, researchers, and students in their exploration and utilization of deuterium reagents for various purposes, including synthesis, labeling, and spectroscopy.

We hope that this handbook will serve as an invaluable resource for chemists, researchers, and students seeking to explore the vast potential of deuterium reagents in their scientific endeavors. By providing a comprehensive overview of the specifications, we aim to facilitate the widespread adoption and effective utilization of deuterium reagents in diverse fields of chemistry.
Applications

Synthetic Chemistry
Deuterium reagents find extensive use in synthetic chemistry for the preparation of deuterated compounds. Deuterium labeling can provide valuable insights into reaction mechanisms, kinetics, and product distributions. It allows for the tracking of reaction pathways, identifying intermediates, and understanding the influence of isotopic effects on chemical transformations.

Medicinal Chemistry
Deuterium-labeled compounds have gained significance in drug discovery and development. Deuterium substitution at specific positions in drug molecules can enhance their metabolic stability, prolong their half-life, and improve their pharmacokinetic properties. Deuterium reagents enable the synthesis of deuterated drug candidates, leading to potential improvements in efficacy and reduced side effects.

Isotope Tracing
Deuterium reagents are used in isotope tracing experiments to study metabolic pathways and biochemical transformations. By replacing hydrogen atoms with deuterium in reactants or substrates, researchers can track the fate of deuterium-labeled atoms within biological systems. This technique aids in understanding metabolic fluxes, enzyme activities, and the dynamics of cellular processes.

Spectroscopy
Deuterium is widely employed in various spectroscopic techniques. In nuclear magnetic resonance (NMR) spectroscopy, deuterium-labeled compounds serve as valuable probes for elucidating molecular structures and dynamics. Deuterium exchange experiments provide insights into hydrogen bonding, solvent accessibility, and conformational changes in biomolecules. Additionally, deuterium is used in mass spectrometry and infrared spectroscopy for isotope ratio analysis and characterization of compounds.
Catalysis
Deuterium plays a crucial role in catalytic reactions, especially in hydrogenation and dehydrogenation processes. Deuterium-labeled substrates and reagents allow for the investigation of reaction mechanisms, surface interactions, and catalyst performance. Deuterium kinetic isotope effects provide valuable information about the rate-determining steps and transition states involved in catalytic reactions.

Environmental Studies
Deuterium reagents are utilized in environmental research to trace the sources and fate of water molecules. Isotope analysis of water samples, using deuterium as a marker, helps in studying hydrological cycles, groundwater dynamics, and understanding climate change patterns. Deuterium isotopic signatures are also employed in forensic investigations and tracing the origin of substances.

These applications highlight the versatility and significance of deuterium reagents in various scientific disciplines. The handbook will delve into each of these areas, providing detailed protocols, case studies, and practical guidance to facilitate their effective utilization.

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### Chloroform-d

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>CAS</th>
<th>Size</th>
<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
</table>
| C109595 |           | 0.6mL×10       |       | **Proton NMR (Atom % D): 99.8-100%**  
**H2O+D2O (Karl Fischer): 0-0.01%**  
**Purity (GC): 99-100%**  
**Appearance: Colorless liquid**  
**Infrared spectrum: Conforms to Structure** |
|         |           | 1g×10          | D, 99.8% |                                                                           |
|         |           | 50g            |       |                                                                           |
|         |           | 100g           |       |                                                                           |
|         |           | 250g           |       |                                                                           |
|         |           | 100g×10        |       |                                                                           |
| C109593 | 865-49-6  | 25g            | (D, 99.8%) | **Proton NMR (Atom % D): 99.8-100%**  
**Water by Karl Fischer: 0-0.02%**  
**Mass Balance (V/V TMS): 0.95-1.2%**  
**Purity (GC): 99-100%**  
**Appearance: Colorless liquid**  
**Infrared spectrum: Conforms to Structure** |
|         |           | 50g            | +1% V/V TMS |                                                                           |
|         |           | 100g           |       |                                                                           |
|         |           | 500g           |       |                                                                           |
| C109594 |           | 1g×10          | (D, 99.8%) | **Proton NMR (Atom % D): 99.8-100%**  
**Water by Karl Fischer: 0-0.03%**  
**Mass Balance (V/V TMS): 0.026-0.04%**  
**Purity (GC): 99-100%**  
**Appearance: Colorless liquid**  
**Infrared spectrum: Conforms to Structure** |
|         |           | 50g            | +0.03% V/V TMS |                                                                           |
|         |           | 100g           |       |                                                                           |
|         |           | 500g           |       |                                                                           |
| C122876 |           | 10g            |       | **Proton NMR (Atom % D): 99.96-100%**  
**Water by Karl Fischer: 0-0.01%**  
**Purity (GC): 99-100%**  
**Appearance: Colorless liquid**  
**Infrared spectrum: Conforms to Structure** |
|         |           | 0.75mL×10      | 100%,  
99.96 atom % D |                                                                           |
|         |           | 1mL×10         |       |                                                                           |
|         |           | 50g            |       |                                                                           |

### Toluene-d8

<table>
<thead>
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<th>CAS</th>
<th>Size</th>
<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
</table>
| T102274 |           | 1g             | D, 99.60%  | **Proton NMR (Atom % D): 99.6-100%**  
**Water by Karl Fischer: 0-0.01%**  
**Purity (GC): 99-100%**  
**Appearance: Colorless liquid** |
|         |           | 5g             |            |                                                                           |
|         |           | 0.75mL×10      |            |                                                                           |
|         |           | 1mL×10         |            |                                                                           |
|         |           | 10g            |            |                                                                           |
|         |           | 25g            |            |                                                                           |
| T102275 | 2037-26-5 | 0.5mL          | D, 99.94%  | **Proton NMR (Atom % D): 99.94-100%**  
**Water by Karl Fischer: 0-0.01%**  
**Purity (GC): 99-100%**  
**Appearance: Colorless liquid** |
|         |           | 1mL            |            |                                                                           |
|         |           | 0.5mL×5        |            |                                                                           |
|         |           | 0.75mL×5       |            |                                                                           |
|         |           | 5mL            |            |                                                                           |
|         |           | 0.5mL×10       |            |                                                                           |
|         |           | 0.75mL×10      |            |                                                                           |
| T102276 |           | 10g            | D, 99.5%   
(0.03% TMS) | **Proton NMR (Atom % D): 99.5-100%**  
**Water by Karl Fischer: 0-0.01%**  
**Purity (GC): 99-100%**  
**Appearance: Colorless liquid** |
### Methanol-d4

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>CAS</th>
<th>Size</th>
<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>M102264</td>
<td></td>
<td>0.6mL × 2</td>
<td>D, 99.8%</td>
<td>Proton NMR (Atom % D): 99.8-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.6mL × 10</td>
<td></td>
<td>Water by Karl Fischer: 0-0.025%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5g</td>
<td></td>
<td>Mass Balance (V/V TMS): 0.046-0.06%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10g</td>
<td></td>
<td>Purity (GC): 99-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25g</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M102262</td>
<td>811-98-3</td>
<td>0.5mL × 2</td>
<td>D, 99.8%</td>
<td>Proton NMR (Atom % D): 99.8-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.75mL × 2</td>
<td></td>
<td>Water by Karl Fischer: 0-0.025%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.5mL × 10</td>
<td></td>
<td>Mass Balance (V/V TMS): 0.026-0.04%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.75mL × 10</td>
<td></td>
<td>Purity (GC): 99-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1g × 10</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5g</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25g</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M140114</td>
<td></td>
<td>0.5mL × 10</td>
<td>D, 99.8%</td>
<td>Proton NMR (Atom % D): 99.8-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.75mL × 10</td>
<td></td>
<td>Water by Karl Fischer: 0-0.025%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1mL × 10</td>
<td></td>
<td>Mass Balance (V/V TMS): 0.03%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1g</td>
<td></td>
<td>Purity (GC): 99-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5g</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25g</td>
<td></td>
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</tr>
</tbody>
</table>

### Ethanol-d

<table>
<thead>
<tr>
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<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>E102260</td>
<td>1516-08-1</td>
<td>1g</td>
<td>D, 99%, anhydrous grade</td>
<td>Proton NMR (Atom % D): 99-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5g</td>
<td></td>
<td>H2O+D2O (Karl Fischer): 0-1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1g × 5</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
<tr>
<td>E304986</td>
<td>925-93-9</td>
<td>5g</td>
<td>d1, (D, 99%) (&lt;6% D2O)</td>
<td>Isotopic purity (Atom % D): 99.5-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25g</td>
<td></td>
<td>Water by Karl Fischer (D2O): 0-5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50g</td>
<td></td>
<td>NMR Spectrum ¹H: Conforms to Structure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100g</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
</tbody>
</table>

### Deuterium Chloride

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>CAS</th>
<th>Size</th>
<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>D304594</td>
<td>7698-05-7</td>
<td>10g</td>
<td>35 wt. % in D2O, ≥99 atom % D</td>
<td>Isotopic Purity: 99-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50g</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Concentration (Titration by NaOH): 34-37%</td>
</tr>
</tbody>
</table>
### Acetonitrile-d3

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>CAS</th>
<th>Size</th>
<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
</table>
| A100969 |         | 0.75mL × 5      | (D, 99.96%) | Proton NMR (Atom % D): 99.96-100%  
Water by Karl Fischer: 0-0.02%  
Purity (GC): 99-100%  
Appearance: Colorless liquid |
| A100970 | 2206-26-0| 0.6mL × 10      | (D, 99.8%) | Proton NMR (Atom % D): 99.8-100%  
Water by Karl Fischer: 0-0.02%  
Mass Balance (V/V TMS): 0.026-0.04%  
Purity (GC): 99-100%  
Appearance: Colorless liquid |
| A100968 |         | 0.5mL × 10      | (D, 99.8%) | Proton NMR (Atom % D): 99.8-100%  
Water by Karl Fischer: 0-0.02%  
Purity (GC): 99-100%  
Appearance: Colorless liquid |

### Pyridine-d5

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>CAS</th>
<th>Size</th>
<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
</table>
| P140017 |         | 0.5mL × 10      | (D, 99.5%) | Proton NMR (Atom % D): 99.5-100%  
Water by Karl Fischer: 0-0.05%  
TMS, 0.03% v/v: conform  
Appearance: Colorless liquid |
| P113720 | 7291-22-7| 0.6mL × 10      | (D, 99.5%) | Proton NMR (Atom % D): 99.5-100%  
Water by Karl Fischer: 0-0.05%  
Mass Balance (V/V TMS): 0.04-0.06%  
Appearance: Colorless liquid |
| P113721 |         | 0.5mL × 10      | (D, 99.5%) | Proton NMR (Atom % D): 99.5-100%  
Water by Karl Fischer: 0-0.05%  
Appearance: Colorless liquid |
## N,N-Dimethylformamide-d7

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<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>N102258</td>
<td>4472-41-7</td>
<td>0.6mL</td>
<td></td>
<td>Proton NMR (Atom % D): 99.5-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1g</td>
<td>D, 99.5%</td>
<td>Water by Karl Fischer: 0-0.05%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5g</td>
<td></td>
<td>Purity (GC): 99-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1g×5</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10mL</td>
<td></td>
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</tbody>
</table>

## Benzene-d6

<table>
<thead>
<tr>
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<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>B100912</td>
<td>1076-43-3</td>
<td>0.5mL×10</td>
<td>D, 99.5%</td>
<td>Proton NMR (Atom % D): 99.5-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.75mL×10</td>
<td></td>
<td>Water by Karl Fischer: 0-0.03%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5g</td>
<td></td>
<td>Purity (GC): 99-100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10g</td>
<td></td>
<td>Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25g</td>
<td></td>
<td>Infrared spectrum: Conforms to Structure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50g</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100g</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1g×10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| B100913  |       | 0.6mL×10 | D, 99.6%| Proton NMR (Atom % D): 99.96-100%                      |
|          |       | 10g      |         | Water by Karl Fischer: 0-0.01%                        |
|          |       | 25g      | (0.03% v/v TMS) | Purity (GC): 99-100%   |
|          |       | 50g      |         | Appearance: Colorless liquid                          |

| B100918  |       | 0.5mL×5  | D, 99.96%| Proton NMR (Atom % D): 99.96-100%                      |
|          |       | 0.75mL×5 |         | Water by Karl Fischer: 0-0.01%                        |
|          |       | 0.5mL×10 |         | Purity (GC): 99-100%                                   |
|          |       | 0.75mL×10|         | Appearance: Colorless liquid                          |
|          |       | 1mL×10   |         |                                                        |
|          |       | 5mL      |         |                                                        |
|          |       | 25mL     |         |                                                        |

| B100914  |       | 0.75mL×2 | D, 99.96%| Proton NMR (Atom % D): 99.96-100%                      |
|          |       | 0.75mL×10| (0.03% v/v TMS) | Water by Karl Fischer: 0-0.01%   |
|          |       |          |         | Purity (GC): 99-100%                                   |
|          |       |          |         | Appearance: Colorless liquid                          |

|          |       |          |         | Infrared spectrum: Conforms to Structure               |
### Acetone-d6

<table>
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<th>Specification</th>
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<tbody>
<tr>
<td>A100962</td>
<td>666-52-4</td>
<td>1mL × 10</td>
<td>(D, 99.9%)</td>
<td>Proton NMR (Atom % D): 99.85-100% Water by Karl Fischer: 0-0.05%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10mL</td>
<td>+ 0.03 % (v/v)TMS</td>
<td>Mass Balance (V/V TMS): 0.026-0.4% Purity (GC): 99-100% Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A100963</td>
<td></td>
<td>0.6mL × 10</td>
<td>(D, 99.96%)</td>
<td>Proton NMR (Atom % D): 99.96-100% Water by Karl Fischer: 0-0.05%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.75mL × 10</td>
<td>(+0.03% V/V TMS)</td>
<td>Mass Balance (V/V TMS): 0.026-0.4% Purity (GC): 99-100% Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td>666-52-4</td>
<td>5mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A100965</td>
<td></td>
<td>0.6mL × 10</td>
<td>(D, 99.9%)</td>
<td>Proton NMR (Atom % D): 99.9-100% Water by Karl Fischer: 0-0.05%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10mL</td>
<td></td>
<td>Purity (GC): 99-100% Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A123143</td>
<td></td>
<td>0.5mL × 10</td>
<td>(D, 99.96%)</td>
<td>Proton NMR (Atom % D): 99.96-100% Water by Karl Fischer: 0-0.05%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.75mL × 10</td>
<td></td>
<td>Mass Balance (V/V TMS): 0.026-0.4% Purity (GC): 99-100% Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25mL</td>
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### Trifluoroacetic Acid-d

<table>
<thead>
<tr>
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<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>T109783</td>
<td>599-00-8</td>
<td>0.5mL × 10</td>
<td>D, 99.5%</td>
<td>Proton NMR (Atom % D): 99.5-100% Water by Karl Fischer: 0-0.5% Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.75mL × 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1g × 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5g</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10g</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T109782</td>
<td></td>
<td>5g</td>
<td>99.5 atom % D</td>
<td>Proton NMR (Atom % D): 99.5-100% Water by Karl Fischer: 0-0.5% Appearance: Colorless liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10g</td>
<td>+0.03% TMS, for use in NMR</td>
<td></td>
</tr>
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<td></td>
<td>25g</td>
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</tbody>
</table>
### Sulfuric Acid-d

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>CAS</th>
<th>Size</th>
<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
</table>
| S102269 | 13813-19-9 | 5g      | (D, 99.5%) | Proton NMR (Atom % D): 99.5-100%  
Purity (Titration by NaOH): 95.5-104.5%  
Appearance: Colorless liquid  
NMR (1H-NMR): complies |
|         |         | 10g      | 96% IN D2O | |
|         |         | 25g      |         | |
|         |         | 50g      |         | |

### Dimethyl Sulfoxide-d6

<table>
<thead>
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<th>Specification</th>
</tr>
</thead>
</table>
| D106263 | 5g      | D. 99.9% |        | Proton NMR (Atom % D): 99.9-100%  
Water by Karl Fischer: 0-0.03%  
Purity (GC): 99-100%  
Appearance: Colorless liquid  
Infrared spectrum: Conforms to Structure |
|         | 10g     |          | +0.03%TMS | Proton NMR Spectrum: Conforms to Structure |
|         | 25g     |          |         | |
|         | 50g     |          |         | |
|         | 0.6mL × 10|        |         | |
|         | 0.75mL × 10|       |         | |
| D106264 | 5g      | D. 99.9% |        | Proton NMR (Atom % D): 99.9-100%  
Water by Karl Fischer: 0-0.03%  
Mass Balance (V/V TMS): 0.026-0.04%  
Purity (GC): 99-100%  
Appearance: Colorless liquid  
Infrared spectrum: Conforms to Structure  
Proton NMR Spectrum: Conforms to Structure |
|         | 10g     |          | +0.05%TMS | |
|         | 25g     |          |         | |
|         | 50g     |          |         | |
|         | 1g × 10 |          |         | |
|         | 0.6mL × 10|        |         | |
|         | 0.75mL × 10|       |         | |
| D106265 | 5g      | D. 99.9% |        | Proton NMR (Atom % D): 99.9-100%  
Water by Karl Fischer: 0-0.03%  
Mass Balance (V/V TMS): 0.046-0.06%  
Purity (GC): 99-100%  
Appearance: Colorless liquid  
Infrared spectrum: Conforms to Structure |
|         | 10g     |          | +1%TMS | |
|         | 25g     |          |         | |
|         | 50g     |          |         | |
|         | 1g × 10 |          |         | |

### Deuterium Oxide

<table>
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<tr>
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<th>Grade</th>
<th>Specification</th>
</tr>
</thead>
</table>
| D113906 | 7789-20-0 | 25g      | 99 atom % D | Proton NMR (Atom % D): 99-100%  
Appearance: Colorless liquid  
NMR (1H-NMR): complies |
|         |         | 100g     |        | |
|         |         | 1kg      |        | |
|         |         | 0.55mL × 10|        | |
|         |         | 25g      |        | |
|         |         | 100g     |        | |
|         |         | 250g     |        | |
|         |         | 500g     |        | |
|         |         | 1kg      |        | |
| D113904 | 99.9 atom % D |        |        | Proton NMR (Atom % D): 99-100%  
Appearance: Colorless liquid |
Official website: www.aladdinsci.com
Phone: +1 (833) 552-7181
Email for purchasing: sales@aladdinsci.com
Email for customer service: custserv@aladdinsci.com
Email for technical support: support@aladdinsci.com
Submit a ticket: https://www.aladdinsci.com/customersupport
Address: 14078 Meridian Parkway, Riverside, CA. 92518 USA