



>>Entry Name: Praseodymium(IV) oxide (PrO<sub>2</sub>)

CAS Registry Number: 12036-05-4

PrO<sub>2</sub>

Molecular Formula: O<sub>2</sub>Pr

Molecular Weight: 172.906

Accurate Mass: 172.897377

Percentage Composition: O 18.51%; Pr 81.49%

Physical Description: Black (dark brown) solid

>>Variant: Praseodymium oxide (Pr<sub>7</sub>O<sub>12</sub>)

CAS Registry Number: 12165-40-1

Molecular Formula: O<sub>12</sub>Pr<sub>7</sub>

Molecular Weight: 1178.347

Accurate Mass: 1178.291809

Percentage Composition: O 16.29%; Pr 83.71%

Physical Description: Black solid

>>Variant: Praseodymium oxide (Pr<sub>9</sub>O<sub>16</sub>)

CAS Registry Number: 12165-51-4

Physical Description: Black solid

>>Variant: Praseodymium oxide (Pr<sub>10</sub>O<sub>18</sub>)

Physical Description: Black solid

>>Variant: Praseodymium oxide (Pr<sub>11</sub>O<sub>20</sub>)

CAS Registry Number: 12165-54-7

Physical Description: Black solid

>>Variant: Praseodymium oxide (Pr<sub>12</sub>O<sub>22</sub>)

Synonym(s): Praseodymium oxide (Pr<sub>6</sub>O<sub>11</sub>)

CAS Registry Number: 12037-29-5

Molecular Formula: O<sub>22</sub>Pr<sub>12</sub>

Molecular Weight: 2042.879

Accurate Mass: 2042.778694

Percentage Composition: O 17.23%; Pr 82.77%

Physical Description: Black solid

Other Data: Monoclinic struct. Dissolves in acid to aq. Pr<sup>3(+)</sup> with some oxidation of acid

Aldrich: 20517-6

Fluka: 81500

Sigma: P5879

References:

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MacChesney, J.B. *et al.*, *J. Chem. Phys.*, 1964, **41**, 3177  
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Künzmann, P. *et al.*, *J. Solid State Chem.*, 1975, **14**, 229, (Pr<sub>9</sub>O<sub>16</sub>)  
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Sharnuks, A.J. *et al.*, *J. Solid State Chem.*, 1978, **23**, 59, (Pr<sub>7</sub>O<sub>12</sub>)  
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Kern, S. *et al.*, *Solid State Commun.*, 1984, **49**, 295, (*nd*)  
Otsuka, K. *et al.*, *Inorg. Chim. Acta*, 1986, **115**, L31  
Andreeva, A.F., *Izv. Akad. Nauk SSSR, Neorg. Mater.*, 1986, **22**, 1320, (*uv-vis*)  
Gasgnier, M. *et al.*, *J. Less-Common Met.*, 1986, **116**, 31, (*synth*)