



>>Entry Name: Uranium(VI) oxide (UO₃)

Synonym(s): Uranium trioxide

CAS Registry Number: 1344-58-7

Related CAS Registry Numbers(s): 11113-93-2

UO₃

Molecular Formula: O₃U

Molecular Weight: 286.027

Accurate Mass: 286.035529

Percentage Composition: O 16.78%; U 83.22%

Other Data: All forms dec. to U₃O₈ on heating at normal pressure

>>Variant: Amorphous-form

Molecular Formula: O₃U

Molecular Weight: 286.027

Accurate Mass: 286.035529

Percentage Composition: O 16.78%; U 83.22%

Source/Synthesis: Synth. by heating various U compds. eg UO₂(C₂O₄), at 400°

Physical Description: Orange solid

Other Data: Dec. at 450°

>>Variant: α-form

Molecular Formula: O₃U

Molecular Weight: 286.027

Accurate Mass: 286.035529

Percentage Composition: O 16.78%; U 83.22%

Source/Synthesis: Obt. from amorphous form at 470-500°

Physical Description: Beige cryst. (orange, red)

Other Data: Dec. at 450°

>>Variant: β-form

Molecular Formula: O₃U

Molecular Weight: 286.027

Accurate Mass: 286.035529

Percentage Composition: O 16.78%; U 83.22%

Source/Synthesis: Obt. from α-form at 500-550°

Physical Description: Orange (red) cryst.

>>Variant: γ-form

Molecular Formula: O₃U

Molecular Weight: 286.027

Accurate Mass: 286.035529

Percentage Composition: O 16.78%; U 83.22%

Source/Synthesis: Obt. from other forms of UO₃ at 650° under 40 atm. O₂

Physical Description: Yellow cryst. solid

Other Data: Dec. at 650°

>>Variant: δ-form

Molecular Formula: O₃U

Molecular Weight: 286.027

Accurate Mass: 286.035529

Percentage Composition: O 16.78%; U 83.22%

Source/Synthesis: Obt. by dec. of β-UO₂(OH)₂ at 375-410°

Physical Description: Deep red (brick red) cryst. solid

Other Data: Dec. at 400°