



>>Entry Name: Molybdenum silicides

CAS Registry Number: 11104-85-1

Related CAS Registry Numbers(s): 11074-63-8 12058-19-4 12163-70-1 12163-85-8 12209-63-1 12502-86-2 112548-46-6 113384-43-3 113690-93-0 113690-94-1 113690-95-2 113690-96-3 113939-39-2 115516-71-7 116812-71-6 117314-43-9 117595-43-4 118032-96-5 119801-14-8 119801-15-9 124230-17-7 127336-61-2 127336-64-5 130680-13-6

Molecular Formula: [MoSi]

>>Variant: Molybdenum silicide (Mo₃Si)

CAS Registry Number: 12033-37-3

Molecular Formula: Mo₃Si

Molecular Weight: 315.906

Accurate Mass: 321.693145

Percentage Composition: Mo 91.11%; Si 8.89%

Melting Point: Mp 2030° (2100°)

>>Variant: Molybdenum silicide (Mo₅Si₃)

CAS Registry Number: 12033-40-8

Molecular Formula: Mo₅Si₃

Molecular Weight: 563.957

Accurate Mass: 573.457811

Percentage Composition: Mo 85.06%; Si 14.94%

Melting Point: Mp 2085° (2190°)

>>Variant: Molybdenum silicide (Mo₂Si₃)

CAS Registry Number: 82391-70-6

Molecular Formula: Mo₂Si₃

Molecular Weight: 276.137

Accurate Mass: 279.741593

Percentage Composition: Mo 69.49%; Si 30.51%

Source/Synthesis: Synth. by heating Si and molybdenum oxides in an electric furnace followed by calcination

Physical Description: Cryst.

>>Variant: Molybdenum silicide (MoSi₂)

CAS Registry Number: 12136-78-6

Molecular Formula: MoSi₂

Molecular Weight: 152.111

Accurate Mass: 153.85926

Percentage Composition: Mo 63.07%; Si 36.93%

Source/Synthesis: Synth. e.g. by reduction of metal oxides by aluminium, by direct combination of elements; cryst. obt. by chem. transport methods

Use/Importance: Used in e.g. heating elements, thermocouples. Oxidation resistant coating for high melting transition metals owing to refractory nature. Commercially available. Used for high-temp. structural applications for T ≤ 1500°

Physical Description: Good metallic conductor. High thermal stability and temp. resistivity in air (to at least 1700°). Resistant to oxidation and corrosion. Dark grey plates

Melting Point: Mp 2050°

Solubility: Insol.

Other Data: Superconductor below 1.3K

Hazard & Toxicity: Fibrogenic

Aldrich: 24364-7

References: