

Molybdenum Disulfide

Layered solid lubricant powder in four particle-size grades for industrial lubrication.

CAS No. 1317-33-5	EC / List No. 215-263-9	Transport Non-dangerous goods
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Product Information

Molybdenum disulfide is an inorganic sulfide with a layered structure, formula MoS₂ and molecular weight 160.07 g/mol. Sliding between the layers supports low-friction behavior in suitable boundary and dry lubrication systems. Performance depends on the operating environment and the complete lubricant or coating formulation.

Specifications

Parameter	Specification
Grade order	Coarse / Technical / Technical Fine / Super Fine
Molybdenum trioxide, by grade	0.08–0.15 / 0.08–0.15 / 0.08–0.15 / ≤0.50 % wt
Iron, all grades	≤0.25 % wt
Acid insolubles, all grades	≤0.50 % wt
Acid number, by grade	≤0.50 / ≤0.50 / ≤0.50 / ≤3.00 mg KOH/g
Water, by grade	≤0.20 / ≤0.20 / ≤0.20 / ≤0.25 % wt
Oil, all grades	≤0.50 % wt
Fisher particle size, by grade	3–5 / 1–2 / 0.50–0.80 / 0.40–0.45 μm
Laser particle-size D50, by grade	16–30 / 8–10 / 1–2 / ≤0.7 μm

Values follow the grade order Coarse / Technical / Technical Fine / Super Fine. Fisher particle size and laser D50 are different measurement bases. No additional assay value is inferred from impurity limits.

Typical Properties

Property	Typical Value
Molecular formula	MoS ₂
Molecular weight	160.07 g/mol

Applications

Lubricating greases and oils: Solid-lubricant component for selected boundary and high-load lubrication formulations. Match particle size and dispersion stability to the lubricant base and equipment requirements.

Dry-film coatings and industrial parts: Powder for compatible lubricating films and coatings. Evaluate binder compatibility, adhesion, surface finish and performance across the intended temperature and atmosphere.

Polymer compounds and forming processes: Additive for selected PTFE, nylon and other polymer systems, or specialized forming and release applications. Determine loading and particle size through processing and performance trials.

Packaging / Storage

Item	Information
Packing	25 / 50 kg drums on pallets
Storage	Store tightly sealed in a cool, dry, ventilated place. Protect from moisture and contamination and keep away from strong oxidizers, peroxides and fluorine. Maintain the original drum lining.
Handling	Avoid generating or inhaling dust. Use closed powder transfer and local extraction, suitable gloves, protective clothing and safety glasses. Use appropriate particulate respiratory protection where the exposure assessment requires it.

Company Contact

Supplier	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
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