

Summary Specification	
BIL. SEBUTHARGA/QUOTATION REF.:	UBD/Q/082/2026 (FOS) - [G]
TARIKH DIIKLANKAN :	<u>23 June 2026 [Selasa]</u>
TARIKH TUTUP :	<u>07 Julai 2026 [Selasa]</u> JAM: 2 Petang
DOCUMENT FEE :	B\$ 10.00

Important Note:

The Official PDF quotation/tender form will be send via email once UBD Official receipt issued and send to vendors/supplier for confirmation of payment received.

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TITLE :		<u>TO SUPPLY AND DELIVER FUNGAL STRAINS TO FACULTY OF SCIENCE ENVIRONMENTAL AND LIFE SCIENCES UNIVERSITI BRUNEI DARUSSALAM</u>
No.	Quantity	SPECIFICATIONS
1	2 btls	Lecithin Physical state solid Form powder Colour light brown - brown
2	1 btl	β -mercaptoethanol β -Mercaptoethanol, also known as BME or 2-mercaptoethanol, is a standard aliphatic thiol used in molecular biology and biochemistry to reduce disulfide bonds in proteins and prevent protein oxidation. It is a clear, colorless liquid commonly supplied at 99% purity. For Molecular Biology Grade specifications (such as products evaluated for critical applications), the criteria typically include: Purity (Assay): $\geq 99.0\%$ (via Gas Chromatography) DNases / RNases / Proteases: Not detectable Water Content: Maximum 0.5% (via Karl Fischer) Absorbance: Strictly controlled parameters (e.g., ≤ 1.50 at 260 nm and ≤ 0.31 at 280 nm). Toxicity: Highly toxic, fatal in contact with skin, and toxic if inhaled or swallowed.Odor: Very strong, pungent sulfur smell (similar to rotting cabbage or natural gas) with an extremely low odor threshold of 0.12 to 0.64ppm. It must always be handled inside a chemical fume hood. Storage: Store in a cool, dry place (usually 2 to 8 dec celcius is recommended for molecular biology grades)

3.	1 btl	<p>Toluene</p> <p>Toluene is a clear, colorless liquid commonly used as an industrial solvent, thinner, and chemical intermediate. Its industrial and chemical grades typically require a minimum purity of 99.8%.</p> <p>Purity 99.8% to 99.9% minimum</p> <p>Appearance Clear, transparent liquid, free of sediments/haze</p> <p>Color (Pt-Co / APHA) 10 to 20 maximum</p> <p>Density / Specific Gravity 0.860 – 0.874 at 15.5°C to 20°C</p> <p>Distillation Range Max. 0.6 °C range (including 110.6 °C)</p> <p>Benzene Content Maximum 500 ppm (mg/kg)</p> <p>Non-Aromatic Hydrocarbons Maximum 0.15% to 0.2%</p> <p>Moisture / Water Content Maximum 500 ppm (mg/kg)</p> <p>Molecular Weigh 92.14 g/mol</p> <p>Boiling Point 110.6 °C</p> <p>Melting Poin t-93 °C to -95 °C</p> <p>Flash Point 4 °C to 4.4 °C (Highly Flammable)</p>
4	1 pack	<p>Saccharomyces cerevisiae</p> <p>Saccharomyces cerevisiae (commonly known as baker's or brewer's yeast) is a single-celled eukaryotic fungus used globally in food, beverage, and biotechnology industries. It is defined by its rapid anaerobic/microaerophilic fermentation of sugars, osmotolerance, distinct morphology, and a fully mapped, 16-chromosome genome</p> <p>Shape & Size: Ellipsoid or round to ovoid cells, measuring approximately 5-10 µm in diameter.</p> <p>Reproduction: Reproduces asexually via budding or sexually via ascospores</p> <p>Optimal Temperature: 30 -35 deg celcius.</p> <p>Maximum Growth Temperature: 37.5 to 39.8 deg celcius</p> <p>Optimal pH: 4.5 to 6.5.</p> <p>Metabolism: Facultative anaerobe. It vigorously ferments hexose sugars into ethanol and carbon dioxide. Nutrient Utilization: Does not utilize lactose</p>
5.	1 pack	<p>Aspergillus niger</p> <p>Aspergillus niger is a common, cosmopolitan filamentous fungus and a well-known type of black mold. It is widely studied for its use in industrial biotechnology (production of enzymes and citric acid) and is commonly used as a reference strain for biological and antimicrobial testing in laboratories.</p> <p>Classification: Fungi, Ascomycota, Eurotiomycetes, Eurotiales.</p> <p>Colony Appearance: Initially white or yellowish, rapidly turning dark brown or jet-black with a powdery, cottony texture as spore production increases.</p> <p>Conidial Heads: Large, globose (spherical) structures measuring up to 750-850 µm</p> <p>Optimal Temperature: 20 - 40 deg celcius. (thermophilic, thrives exceptionally well at 37 deg celcius.</p>
6.	1 pack	<p>Penicillium chrysogenum</p> <p>Penicillium chrysogenum (often scientifically reclassified as Penicillium rubens) is a highly adaptable filamentous fungus most famously known as the original source of the antibiotic penicillin. It is frequently utilized in biotechnology, acts as an indoor mold indicator, and thrives in temperate and subtropical climates.</p> <p>Colony Appearance: Starts as a white, fluffy mass, eventually turning blue-green or gray-green with a yellowish pigment diffusible into the culture medium. Conidia (Spores): Spheroidal to ellipsoidal, smooth-walled, typically ~3 µm in diameter.</p> <p>Optimal Growth Conditions: Temperature: 23 to 28 deg celcius for penicillin productio</p>

7	1 pack	<p>Rhizopus oryzae</p> <p>Rhizopus oryzae is a fast-growing, filamentous fungus (zygomycete) widely used in industrial biotechnology for the production of organic acids, enzymes, and fermented foods like tempeh. It is also recognized as an opportunistic pathogen that can cause mucormycosis in immunocompromised individuals</p> <p>Temperature Range: Grows rapidly between 25 and 37 dec celcius, but generally exhibits poor growth or cannot survive at temperatures of 45 deg or higher.</p> <p>pH Range: Can thrive across a wide range of pH environments but generally prefers an optimal environment around pH 5.0 to 6.0 for industrial fermentation.</p> <p>Nutrition: Saprophytic; it easily utilizes a wide variety of simple and complex carbon sources</p> <p>Classification: Phylum Zygomycota, Order Mucorales, Family Mucoraceae. Aliases: Black bread mold, frequently grouped with Rhizopus</p>
8	1 pack	<p>Trichoderma reesei</p> <p>Trichoderma reesei is a filamentous, cellulolytic fungus widely recognized in biotechnology for its prolific capacity to secrete hydrolytic enzymes and plant cell-wall-degrading proteins. It is primarily utilized for the large-scale production of biofuels, industrial enzymes, food processing additives, and biopharmaceuticals</p> <p>Morphology: Filamentous mycelia with conidiophores. Optimal</p> <p>Temperature: 25 to 28 deg celcius.</p> <p>Optimal pH: 4.0 to 5.0.</p> <p>Carbon Sources: Effectively grows on inducing compounds like cellulose, lactose, and cellobiose. Engineered strains can also metabolize other carbon sources depending on genetic modifications</p>
9	1 pack	<p>Fusarium solani</p> <p>Fusarium solani is a ubiquitous, soil-borne filamentous fungus and a major plant pathogen. It exists as a complex of dozens of distinct, host-specific species. It causes significant agricultural damage (like root rot) and can act as an opportunistic pathogen in humans and animals</p> <p>Taxonomy: Kingdom Fungi- rightarrow- Phylum Ascomycota - rightarrow. Order Hypocreales -rightarrow -Family Nectriaceae.</p> <p>Growth Rates: Highly adaptable; ideal temperatures range between 23°C and 29°C, with a radial growth rate of 8 to 9 mm per day.</p> <p>Colony Characteristics: Fast-growing, flat, and cottony or velvety. The color varies from pale whitish/cream to shades of rose, burgundy, or bluish-violet on the underside</p>