AuSaMicS™ Life Science

Technical Data Sheet
AS-1015 | Rev. 1 | June 2026
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Agarose Powder — Molecular Biology Grade

Catalogue No. AS-1015 · Low EEO · For Gel Electrophoresis

Section 1 — Product Identification

Product Name	Agarose Powder — Molecular Biology Grade
Catalogue Number	AS-1015
Product Format	Dehydrated powder
Intended Use	Agarose Powder — Molecular Biology Grade — for laboratory, research, and microbiological applications
Manufacturer	AuSaMicS Pty Ltd
Address	31 Longview CT, Thomastown, VIC 3074, Australia
ABN	56 676 640 467
Website	www.ausamics.com.au
Email	support@ausamics.com.au
Phone	+61 412 520 598

Section 2 — Mode of Action

Agarose is a linear polysaccharide derived from agar, composed of alternating 3,6-anhydro-L-galactose and D-galactose units. When dissolved in buffer and cooled, agarose forms a thermoreversible gel through hydrogen bonding. The gel matrix creates pores through which charged nucleic acid molecules migrate under an applied electric field in gel electrophoresis. Smaller molecules migrate faster; larger molecules are retarded, enabling size-based separation of DNA and RNA fragments. Low EEO (Electroendosmosis ≤ 0.15) is critical for molecular biology grade agarose — high EEO from residual sulfate groups causes counterflow that reduces resolution and band sharpness. The absence of DNase, RNase, protease, and nuclease inhibitory factors ensures nucleic acid integrity throughout separation.

Section 3 — Composition

Ingredient	g / L
Agarose (polysaccharide from red algae)	CAS 9012-36-6
Grade	Low EEO Molecular Biology Grade
Batch Source	Henan Gino Biotechnology Co., Ltd. — Batch 11250301

Final pH at 25°C: Not applicable (solid) **Suspend/Use: Prepare 1–2% w/v in 1× TBE or TAE buffer** **Yield/Pack: 100 g per unit**

Section 4 — Preparation

1. Weigh required amount (1 g for 1% or 2 g for 2% per 100 mL buffer).
2. Combine with appropriate volume of 1× TBE or TAE buffer.
3. Heat in microwave or on hot plate until boiling; swirl gently until fully dissolved and solution is clear.
4. Cool to 45–50°C (just warm to touch) — avoid pouring above 60°C to prevent gel tray warping.
5. Pour into gel tray, insert comb, and allow to solidify for 20–40 minutes at room temperature.

Section 5 — Quality Control

Test	Specification	Typical Result
Appearance	Off-white to white powder	Off-white to white powder
Solubility (1g/100mL water)	Clear, colourless solution	Clear colourless solution
Moisture	≤ 12.0%	7.30%
Gel Strength (1.0%)	≥ 1,200 g/cm²	1,312 g/cm²
EEO (Electroendosmosis, -Mr)	≤ 0.15	0.09
Sulphate Content	≤ 0.15%	0.09%
Ash Content	≤ 0.5%	0.12%
Gelling Point (1.5%)	35 – 37°C	36°C
Melting Point (1.5%)	87 – 89°C	88°C
DNase	None detectable	None
RNase	None detectable	None
Protease	None detectable	None
Endonuclease/Ligase Inhibitory Factor	None detectable	None

Section 6 — Storage

Storage	Store in a cool, dry area at 15–25°C in a tightly closed container, protected from light
Prepared Gels	Store at 2–8°C, wrapped in plastic film; use within 2 weeks

Section 7 — Applicable Standards

Standard	Relevance
Molecular Biology Grade	Suitable for DNA/RNA electrophoresis, blotting, and cloning applications
ISO 11133:2014	General culture media QC reference
Current Protocols in Molecular Biology	Sambrook & Russell — standard reference for agarose gel preparation

Section 8 — Cross-Reference / Equivalent Products

Supplier	Product Name	Catalogue No.
Sigma-Aldrich (Merck)	Agarose, for molecular biology	A9539
Thermo Fisher	UltraPure Agarose	16500500
Bio-Rad	Agarose, Standard	161-3100
AuSaMicS	Agarose Powder — Molecular Biology Grade	AS-1015

Section 9 — Literature / References

#	Reference	Relevance
1	Sambrook J, Russell DW. Molecular Cloning: A Laboratory Manual. 3rd ed. Cold Spring Harbor Laboratory Press; 2001.	Standard reference for agarose gel electrophoresis
2	McDonell MW, Simon MN, Studier FW. Analysis of restriction fragments	Foundational agarose electrophoresis methodology

	of T7 DNA and determination of molecular weights by electrophoresis in neutral and alkaline gels. J Mol Biol. 1977;110(1):119–146.	
3	Stellwagen NC. Electrophoresis of DNA in agarose gels, polyacrylamide gels and in free solution. Electrophoresis. 2009;30(S1):S188–S195.	Comprehensive review of DNA electrophoresis