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TECHNICAL DATA SHEET 299

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Sodium Dodecyl Sulfate

BACKGROUND:

Dodecyl sulfate, sodium salt (SDS), is a are potent protein denaturant and solubilizing agent which bind to proteins cancelling differences in intrinsic charge and converting their shape to rod-like particles whose lengths vary uniquely with molecular weights.

To meet the needs of researchers, Polysciences offers SDS, Electro Pure™ which contain less than 10 ppm of heavy metals. Heavy metals can precipitate or complex with heavy metals. These complexes can appear as false bands on electrophoresis gels. In addition, hexadecyl sulfate (C₁₆ alkyl sulfate), a common minor constituent of many grades of SDS, has been reported to inhibit the renaturation of enzyme activity after SDS polyacrylamide gel electrophoresis.¹ Polysciences SDS contains no C₁₆ alkyl sulfate.

APPLICATIONS:

By binding with protein molecules, SDS reduces charge differences between proteins to make size differences of the complexes directly proportional to the molecular weight of the proteins. Thus molecular weights may then be determined by comparing the electrophoretic migration of unknown proteins with standards.²⁻⁴ Other applications of SDS include solubilization of proteins⁵ and enzyme substrates,⁶ and the fractionation of high and low molecular weight RNAs.⁷

SPECIFICATIONS:

C₁₂ Assay
Free fatty alcohol
Phosphate
O.D., 220-350 nm (3% aqueous)
Heavy Metals
pH of 1% solution

SDS, ELECTRO/PURE™

99% min.
0.2% max.
0.0001% max.
0.1% max.
10 ppm max.
6.0 - 7.5

ORDERING INFORMATION:

Cat. #	Description	Size
03945	Sodium Dodecyl Sulfate, Electro Pure™	100g, 1kg
00019	Acrylamide, Electro Pure™, 99.9% Recrystallized (write for TDS #155)	100g, 500g
03707	Coomassie® Blue, G250	10g, 50g, 100g
00352	Coomassie® Blue, R250	10g, 50g, 100g

CAUTION:

These powders can cause irritation. Prolonged contact with skin may result in dermatitis.

FIRST AID:

In case of contact, flush with plenty of water for at least 15 minutes. Get medical attention for eyes. If ingested, wash out mouth with water and obtain medical attention.

REFERENCES:

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10. Dam, V.T., et al., Anal. Biochem., **114**, 330 (1981).
11. Sinclair, J.F., et al., Anal. Biochem., **114**, 316 (1981).

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