



# PRODUCT SPECIFICATION SHEET

## Crystal Violet Lactose Agar (DM065)

### Intended Use

Crystal Violet Lactose Agar (DM065) is recommended for differentiation of pure cultures of pathogenic and non-pathogenic *Staphylococci*.

### Product Summary and Explanation

*Staphylococcus* is a genus of Gram-positive bacteria which includes at least 40 species. Of these, nine have two subspecies and one has three subspecies. Most are harmless and reside normally on the skin and mucous membranes of humans and other organisms. Found worldwide, they are a small component of soil microbial flora. *Staphylococcus* can cause a wide variety of diseases in humans and animals through either toxin production or penetration. *Staphylococcal* toxins are a common cause of food poisoning, as they can be produced by bacteria growing in improperly stored food items. The toxicity of *Staphylococci* is estimated based on the pigment production, haemolytic and coagulating characteristic. Crystal Violet Lactose Agar was recommended by Chapman<sup>(1)</sup> for the differentiation of pure cultures of pathogenic from nonpathogenic strains of *Staphylococci*. In the study of the correlation between haemolytic and coagulase activities, animal inoculation and other tests, Chapman and Berens<sup>(2,3)</sup> reported that *Staphylococci* produced different coloured growths when cultured on Crystal Violet Agar. Haemolytic and coagulating strains produced purple to violet colour whereas non-hemolytic and non-coagulating strains produced white colonies after incubation. Crystal violet inhibits most of the gram-positive organisms and is markedly inhibitory to *Staphylococci*. A fair growth can be obtained at a 1: 300,000 concentration of the dye when the medium is inoculated heavily. So, this medium is used for study of pure cultures where a mass inoculation can be used rather than for primary isolation.

### Principles of the Procedure

Crystal Violet Lactose Agar contains proteose peptone and beef extract which provides nitrogen, carbon, vitamins and essential growth nutrients. Lactose is the source of carbon and energy. Crystal violet helps to inhibit most of the gram-positive organisms and is markedly inhibitory to *Staphylococci*.

### Formula / Liter

Ingredients	Gms / Liter
Proteose peptone	5.00
Beef extract	3.00
Lactose	10.00
Crystal violet	0.0033
Agar	15.00
Final pH: 6.8 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

### Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

### Directions

1. Suspend 33 grams of the medium in one liter of distilled water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 45-50°C. Mix well and pour into sterile petri plates.

### Quality Control Specifications

Dehydrated Appearance	Light yellow to light tan homogeneous free flowing powder
Prepared Medium	Light purple coloured, clear to slightly opalescent gel forms in Petri plates
Reaction of 3.3% solution	pH 6.8 ± 0.1 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel





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**Expected Cultural Response:** Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours.

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of Colony
1.	<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	>=50%	purple
2.	<i>Staphylococcus aureus</i> ATCC 25923	50-100	fair-good	30-40%	light yellow
3.	<i>Staphylococcus epidermidis</i> ATCC 12228	50-100	fair-good	30-40%	purple/ very slightly yellow
4.	<i>Streptococcus pyogenes</i> ATCC 19615	50-100	none - poor	0 -10 %	colourless

The organisms listed are the minimum that should be used for quality control testing.

## Test Procedure

Refer to appropriate references for standard test procedures.

## Results

Refer to appropriate references and standard test procedures for interpretation of results.

## Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

## Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

## Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

## Packaging

**Product Name :** Crystal Violet Lactose Agar

**Product Code :** DM065

**Available Pack sizes :** 500gm

## References

1. Chapman, 1936, J. Bact., 32:199.
2. Chapman, Berens. Peters and Curcio, 1934, J. Bact., 28:343.
3. Chapman and Berens, 1935, J. Bact., 29:437.

## Further Information

For further information please contact your local MICROMASTER Representative.



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