

## Amies Transport with Charcoal

For transport and maintenance of microbiological samples

### Practical information

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Industry: Clinical / Transport media for samples

### Principles and uses

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AMIES TRANSPORT MEDIUM WITH CHARCOAL is used for collecting, transporting and preserving microbiological specimens. It is formulated to maintain the viability of microorganisms without significant increase in growth, being nonnutritive, phosphate buffered and semi-solid.

Amies developed his formula (1967) with charcoal upon proving that *Neisseria gonorrhoeae* increased its survival rate when charcoal swabs were used. Amies solved the problem of charcoal removal from the swabs by incorporating charcoal into the formulation. Amies Transport Medium is recommended for throat, vaginal, and wound samples.

In the formulation, charcoal neutralizes fatty acids that are toxic to microorganisms. The chloride salts supply essential electrolytes for transport and osmotic balance. Phosphates act as a buffer system. Sodium thioglycollate suppresses oxidative changes and provides a reduced environment.

The survival of bacteria in a transport medium depends on various factors such as bacteria type and concentration in the specimen, transport medium formulation, the temperature and duration of transport, and inoculation to appropriate culture media within 24 hours. Optimal growth and typical morphology can only be expected if direct inoculation and appropriate cultivation are followed.

### Formula in g/L

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Activated charcoal	10	Agar N° 2	7,5
Calcium chloride	0,1	Magnesium chloride anhydrous	0,1
Potassium chloride	0,2	Potassium dihydrogenphosphate	0,2
Sodium chloride	3	Sodium hydrogen phosphate	1,1
Sodium thioglycollate	1		

### Preparation

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Suspend 23,2 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into tubes and sterilize in autoclave at 121 °C for 15 minutes. Maintain a homogeneous mixture of the charcoal throughout the medium by inverting the tubes as they cool.

### Instructions for use

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- Insert inoculated sterile swabs into the upper third of the transport medium within the transport container.
- Break off the protruding portion of the swab stick and tightly screw shut.
- Send to the laboratory within 24 hours for culture analysis.
- Specimens may be refrigerated until ready for shipment.

### Quality control

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Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Black	Black	7,3 ± 0,2

### Microbiological test

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Microrganisms

Specification

Bacillus cereus ATCC 11778  
Neisseria gonorrhoeae ATCC 19424  
Brucella abortus ATCC 4315  
Streptococcus pneumoniae ATCC 6305  
Salmonella typhi ATCC 6539

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## Storage

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Temp. Min.:2 °C  
Temp. Max.:25 °C

## Bibliography

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Amies C.R. (1967) "A Modified Formula for the Preparation of Stuart's Transport Medium". Can. J. Public Health 58: 296-300.