

Instructions for Use

CARBON DIOXIDE CO₂ TABLET

Cat. no. CO2BAG	Carbon Dioxide (CO ₂) Tablet with Zip-lok bag	10 tablets and 10 bags/pk
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INTENDED USE

Hardy Diagnostics Carbon Dioxide (CO₂) Tablet is recommended for use to generate CO₂ to create the proper incubation atmosphere for certain fastidious microorganisms.

SUMMARY

Carbon Dioxide (CO₂) Tablet is a simple system used to generate a carbon dioxide-enriched atmosphere for the cultivation of certain fastidious microorganisms, such as *Streptococcus* and *Neisseria* spp., when grown on plated media. The system consists of a CO₂ tablet coupled with a Zip-lok bag. The CO₂ tablet reacts with moisture in the ambient air in the Zip-lok bag to produce an environment containing approximately 6% CO₂ when the bag is fully sealed. The final concentration of oxygen should be about 15%.

FORMULA

Hardy Diagnostics Carbon Dioxide (CO₂) Tablet generates carbon dioxide through a reaction of sodium bicarbonate, citric acid, and water.

STORAGE AND SHELF LIFE

Storage: Upon receipt, store at 15-30°C away from direct light. Product should not be used if there are any signs of deterioration, broken foil on the blister pack before use, or if the expiration date has passed. Product is moisture and oxygen sensitive; protect from excessive heat, ambient air prior to use, and moisture.

The expiration date on the product label applies to the product in its intact packaging when stored as directed. The product may be used and tested up to the expiration date on the product label and incubated for the recommended incubation times as stated below.

Refer to the document "[Storage](#)" for more information.

PRECAUTIONS

This product is for *in vitro* diagnostic use only. It is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions." Refer to the document "[Guidelines for Isolation Precautions](#)" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M-29: Protection of Laboratory Workers from Occupationally Acquired Infections:

Approved Guideline.

Sterilize all biohazard waste before disposal.

Refer to the document "[Precautions When Using Media](#)" for more information.

PROCEDURE

Method of Use: Bring medium to room temperature prior to use. Inoculate plated media per laboratory procedure or reference method.⁽¹⁻³⁾ Once the tablet has been removed from the foil wrapper, seal the tablet in the Zip-lok bag with the plated medium within 30 seconds.

1. Place the inoculated petri plate into the Zip-lok bag in an inverted position. Do not use more than one plate per bag and tablet. Alternatively, the tablet may also be placed into the opening of a pill-pocket plate just before bagging. Incubate the pill-pocket plate in the upright position inside the sealed bag.
2. Remove the CO₂ generating tablet from the foil wrapper and immediately place the tablet into the Zip-lok bag next to the plate. The tablet should not be placed inside the petri plate and should not touch the medium.
3. Seal the bag tightly. The tablet will be activated by moisture given off by the medium in the sealed bag. **Do not place a drop of water on the tablet.** There is adequate moisture generated in the bag to slowly release the CO₂. The completeness of the bag seal is essential to maintain the CO₂ environment for growth.
4. Incubate the sealed bag at the temperature and duration required for the organism.⁽¹⁻³⁾ Do not open the Zip-lok bag before the end of the incubation period. **Note:** if re-incubation of the plate is required, use a new CO₂ tablet and bag.

DISPOSAL

Once incubation is complete, discard the used CO₂ tablet and Zip-lok bag per laboratory procedure or state and county regulatory guidelines.

LIMITATIONS

It is recommended that biochemical, immunological, molecular, or mass spectrometry testing be performed on colonies from pure culture for complete identification of bacteria and/or fungi.

If there is a delay longer than 30 seconds to seal the Zip-lok bag once the tablet has been exposed to the environment, use of a fresh tablet is recommended.

Do not re-use the CO₂ tablet. If the Zip-lok bag has been opened or the seal compromised during the incubation window, use a new CO₂ tablet and Zip-lok bag, if damaged.

Opening the seal on the Zip-lok bag during the incubation window will introduce ambient air and disrupt the amount of CO₂ in the bag. This may adversely affect the viability of the culture. Wait until the incubation window is fully complete before opening the Zip-lok bag.

Refer to the document "[Limitations of Procedures and Warranty](#)" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as loops, swabs, applicator sticks, petri dishes, pill-pocket dishes, other culture media, incinerators, incubators, etc., as well as serological and biochemical reagents, are not provided.

PHYSICAL APPEARANCE

Carbon Dioxide (CO₂) Tablet should appear as a blister pack containing ten individually sealed, off-white tablets and ten

2
5"x5" Zip-lok bags.

REFERENCES

1. Isenberg, H.D. *Clinical Microbiology Procedures Handbook*, Vol. I, II & III. American Society for Microbiology, Washington, D.C.
2. Tille, P.M., et al. *Bailey and Scott's Diagnostic Microbiology*, C.V. Mosby Company, St. Louis, MO.
3. Jorgensen et al. *Manual of Clinical Microbiology*. American Society for Microbiology, Washington, D.C.

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1430 West McCoy Lane, Santa Maria, CA 93455, USA

Phone: (805) 346-2766 ext. 5658

Fax: (805) 346-2760

Website: HardyDiagnostics.com

Email: TechnicalServices@HardyDiagnostics.com

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