

SOUS-VIDE VACUUM BAG SAFETY & COMPLIANCE SOP

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1. PURPOSE & SCOPE

This Standard Operating Procedure (SOP) defines the correct selection and use of vacuum bags for sous-vide cooking in order to ensure chemical safety, microbiological safety, and regulatory compliance.

This SOP applies to all sous-vide food preparation, cooking, chilling, storage, and reheating operations.

2. VACUUM BAG CLASSIFICATION

A. STORAGE BAGS (✗ NOT FOR COOKING)

Designed exclusively for refrigerated storage

Typically multi-layer laminates or co-extrusions

Common materials: polyamide (PA) for gas barrier + polyethylene for sealing

⚠ WARNING:

These materials are not thermostable.

Exposure to cooking temperatures causes polymer degradation and increases the migration of untested monomers and additives into food.

B. SOUS-VIDE COOKING BAGS (✓ APPROVED)

Certified for prolonged thermal exposure

Compliant with overall and specific migration limits

Suitable for pasteurization and controlled thermal processes

Maintain seal integrity in the presence of fats and liquids

Certain applications (e.g. cooked meats, hams) require inner layers designed to bind with proteins to prevent gelatin or fat separation and improve yield.

C. FREEZING BAGS

Reinforced blends designed to withstand ice-crystal stress

Prevent micro-cracking caused by freezing and handling

Reduce freezer burn, dehydration, and lipid oxidation

⚠ Non-specific bags may fail during freezing, compromising both safety and quality.

3. MICROBIOLOGICAL RISK – CRITICAL WARNING

Vacuum sealing creates an anaerobic environment.

While aerobic spoilage bacteria are inhibited, the growth of anaerobic or facultative pathogens may occur without visible spoilage.

Pathogens of concern include:

Clostridium botulinum

Clostridium perfringens

Listeria monocytogenes

4. MANDATORY CONTROL MEASURES

The following controls are required:

Use of validated time-temperature combinations

Rapid chilling after sous-vide cooking

Cold storage maintained at $\leq 3^{\circ}\text{C}$ / 38°F

Strict cold-chain management

Accurate product labeling (date, time, product)

Controlled reheating only in a regulated water bath

Failure to comply may result in serious food safety hazards.

5. RESPONSIBILITY

All kitchen staff involved in sous-vide operations must be trained on this SOP.

Management is responsible for enforcement and documentation.

Authorized by: _____

Signature: _____

Date: _____

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