**Chemical Preservatives in Food Products**

**What are they?**

Preservatives are added to foods to improve food safety and avoid wastage by extending shelf life. They can be categorized into three general types: antimicrobials that inhibit growth of bacteria, yeasts, or molds; antioxidants that slow oxidation of fats and lipids, which leads to rancidity; and a third type that blocks the natural ripening and enzymatic processes that continue to occur in foodstuffs after harvest.

Some common preservatives in wide use are nitrates and nitrates, which prevent discoloration in meat; benzoates (most commonly sodium benzoate), which are used primarily in acidic foods to prevent bacterial growth; propionic acid, which prevents mold in bread.

**Why test?**

1) **Regulation in Hong Kong**

Under Preservatives in Food Regulations of the Public Health and Municipal Services Ordinance, Chapter 132BD, any food manufactured, imported or sold in Hong Kong should comply to the positive list of permitted preservatives and maximum permitted level for specific food products (divided into 15 food categories) as stated in Schedule 1 of the Regulation.

2) **Food Adulteration**

Preservatives like sulphur dioxide and nitrates/ nitrites have been added illegally to fresh/ chilled/ frozen meat to imitate the look of freshness by retaining the red flesh colour. The Centre of Food Safety conducts regular surveillance on preservatives in fresh meat and sulphur dioxide was found to be added repeatedly in fresh meat in recent years.

3) **Allergen Labelling**

According to the Food and Drugs (Composition and Labelling) (Amendment) Regulation 2004, allergenic substances need to be clearly labeled on pre-packaged foods. Sulphite at a concentration of 10ppm or more is considered as an allergen therefore must be labelled.

**Laboratory Analysis at ALS**

ALS provides a comprehensive range of preservative analyses to safe guard your product’s integrity. 10 of them have been accredited with the Hong Kong Laboratory Accreditation Scheme (HOKLAS) that guarantees the accuracy and precision of testing.

- Sulphur Dioxide
- Benzoic acid
- Sorbic acid
- Salicylic acid
- 4-hydroxybenzoates (parabens)
- Sodium Nitrate
- Sodium Nitrite
- Boric acid

**METHOD REFERENCE**

AOAC 979.08 (steam distillation and determination by UPLC)

AOAC 990.28 (reflux and titration)

**Please contact us for more information**

<table>
<thead>
<tr>
<th>Contact Person</th>
<th>Email</th>
<th>Phone number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ada Yiu</td>
<td><a href="mailto:ada.yiu@alsglobal.com">ada.yiu@alsglobal.com</a></td>
<td>+852 2401 5088</td>
</tr>
<tr>
<td>Cyrus Chau</td>
<td><a href="mailto:cyrus.chau@alsglobal.com">cyrus.chau@alsglobal.com</a></td>
<td>+852 2401 5085</td>
</tr>
<tr>
<td>Rita Chau</td>
<td><a href="mailto:rita.ku@alsglobal.com">rita.ku@alsglobal.com</a></td>
<td>+852 2401 5055</td>
</tr>
</tbody>
</table>