

## Measurement of pH

- International standards for pH measurement :
  - ISO 2917 : 1999 Meat and meat products - Measurement of pH – Reference method
  - ISO 1842 : 1991 Fruit and vegetable products – Determination of pH
  - ISO 7238 : 2004 Butter - Determination of pH of the serum - Potentiometric method
  - ISO 10523 : 2008 Water quality – Determination of pH
  
- French standard for pH measurement :
  - FD V04-035 : 2009 Milk and milk products - Determination of pH



## ISO 2917 : 1999 Meat and meat products

### Measurement of pH – Reference method

#### **Foreword**

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#### **3 Term and definition**

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##### **9.4 Measurement on sample**

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##### **11.1 Interlaboratory tests**

##### **11.2 Repeatability**

##### **11.3 Reproducibility**

#### **12 Test report**

#### **Bibliography**

## Measurement of $a_w$

- ❑ International standards for  $a_w$  measurement :
  - ISO 21807 : 2005 Foodstuff - Determination of water activity

## MEASUREMENT OF pH AND $A_w$ IN MULTI COMPONENT FOOD: A CASE STUDY

Product : Sandwich filled with chicken – bacon and mayonnaise

Parameters to be measured : pH and  $a_w$

What should be the most appropriate method to be used to  
measure the pH of this multi component product ?

and for the  $a_w$ ?

## Proposals

- ❖ Measure the pH and aw after an homogenisation of the product
- ❖ Measure the pH and aw of each ingredient and consider the one with the highest value
- ❖ Measure the pH at the interface of the components with a microelectrode

## MEASUREMENT OF pH AND $A_w$ IN FAT PRODUCTS

What method do you use to measure the pH and the  $a_w$  of in fat products ?

such as butter, cheese ?

# Software Designer : A software for water activity calculation in food

## Calculation of the aw

The screenshot shows the 'Simulation' software interface. The main window contains a table of ingredients and their properties, and a results panel on the right.

Famille	Ingrédient	Quantité	Humidité (%)	Sucres (%)	Protéines (%)	M.G. (%)
cacao ...	poudre ...	10	5.6	2.2	19.8	24.5
glucide	saccha...	250	0			
huile et ...	MGLA	250	0.2	0	0	99.8
farine	Farines...	250	13.7	0.7	9.84	1.13
gomme	Gomme...	8	8			
ovopro...	Blanc d'...	125	68	8.1	77.3	0.12
ovopro...	Jaune d'...	125	50	2.1	31.7	59.3
sel	NaCl	10	0			
polyol	sorbitol	5	23			
*****						

Unités  
Quantité des ingrédients :  
 en kg  
 en %

Masse avant cuisson  
[ Rafraichir ]

Cuisson  
Perte d'eau (en %)  
[ 0 ]

Résultats  
l'aw du produit est : **0.783**  
Humidité (%) : **20.29**  
Masse finale : **1033**

Eau ajoutée dans la formulation : [ 0 ] [ Voir les masses en garde ]

Actions  
[ Execute ] [ Imprimer ] [ Quitter ] [ Impact par ingrédient ] [ Optimisation de formule ]