



CENTRE PASTEUR  
DU CAMEROUN

# SOP n°4

## Processing of samples



Food and Agriculture Organization  
of the United Nations



World Health  
Organization



Benin



Cameroon




Mali



Nigeria

# Source and Scope

	Standard Operating Procedure	TDS SOP 04
SOP Valid from:	Sample preparation (at kitchen laboratory)	

***SCOPE*** : *this procedure is a generic SOP applicable for the processing of food samples for TDS.*

*It is intended to be used (possibly after adequate adaptations) by each national TDS team*



# Objective

---

*To be a generic procedure for the preparation/processing of samples at kitchen laboratory level.*



# Vocabulary

- **Composite** : sample consisting of 12 subsamples of equal weight
- **Individual composite** : sample consisting of 12 subsamples each of the same food subgroup (level 2 of RTDS classification)
- **Subsample** : sampled unit, defined by its intrinsic nature, origin, place of purchase and preparation process.



# Vocabulary

- **National sample** : analyzed only once (for the whole country) by time-period investigated.
- **Local sample** : at least two composites need to be analyzed (one for each location of interest), from the assumption of significant differences in contamination level between the selected locations
- **Local sample by default** : justification requested to consider a sample as “national”



# Responsibilities

*Job description of :*

- *Kitchen lab staff*
- *Coordinators*

*Should be noted*

- Training mandatory*
- Compose list of trained & allowed personnel*



# PROCEDURE

## Sample preparation and culinary operations

### *General recommendations :*

- *Highly perishable food targeted with priority*
- *Inedible parts removed before or after cooking according to consumers usual behaviour*
- *Food should be prepared as reported in sampling plan and according to reference recipes*
- *Reflect consumer habits including cooking method and cooking time.*
- *Distilled water is used for boiling and salt and fat are analyzed individually*
- *Sauces, seasoning and spices are not added to food*



# PROCEDURE

## Sample preparation and culinary operations

### *Materials :*

- *Kitchen utensils used for preparing samples should be a source of contaminants.*
- *However, a migration study will try to characterize the contribution of traditional kitchen utensils to the dietary exposure of populations*
- ❑ *List of kitchen utensils*
- ❑ *Liste of homogenising equipment*
- ❑ *Recipients for TDS samples*





# PROCEDURE

## Preparation of samples and culinary operations

*Prepare each TDS sample as described in appendix n°1*

- *Record while preparing samples in appendix n°1 any relevant information :*
  1. *Date, weight before and after each culinary process*
  2. *Cooking method*
  3. *Type of water (distilled water)*
  4. *Comments (absence of salt, oil...)*
  5. *Name and signature*
- *Check if recorded values/calculations are correct*
- *One composite sample of water (12 subsamples)*



# PROCEDURE

## Pooling, homogenising

- *100g minimum of the edible fraction of each of the 12 « prepared as consumed » subsamples should be added to a 2L HDPE container to form the TDS composite sample*
- *The TDS sample should be thoroughly homogenised*
- *Visual inspection for homogeneity of samples*
- *Special attention should be paid to the list of containers which may be modified if necessary*



# PROCEDURE

## Division into analytical units

---

- *At least 2 X 100g (analytical sample + reserve sample) are taken from homogeneous TDS pooled sample. If 10 analysis are requested, 11X 100g will be needed.*
- *Transport to laboratories : frozen (-20°C) iceboxes+dry ice*
- *The analytical plan can be found in the following Excel file:*

**RTDS ANALYTICAL PLAN**



# PROCEDURE

## Storage of samples

---

- *Preserved at  $-20^{\circ}\text{C}$  or below until delivery to the analytical laboratories.*
- *Record in Appendix n°2 permet d'enregistrer **where** and **where** pooled samples are stored*
- *When portions are withdrawn from storage, they should be rehomogenised if needed or tested for homogeneity*



# PROCEDURE

## Cleaning

### *Kitchen utensils*

- *Following common household practices*

### *Laboratory utensils*

1. *Pre-clean with paper towels*
2. *Clean using appropriate laboratory scale detergent (Deconex...) and rinse with tap water*
3. *Rinse with distilled water*
4. *If manually cleaned, finally rinse with ethanol*
5. *The equipment should be dried*

*Other cleaning procedures should be evaluated beforehand*



# PROCEDURE

## Disposal of samples

---

*If samples are inedible or spoiled*

- **Waste**

*Leftovers of prepared TDS samples*

*(once pooled samples are frozen and stored)*

- **Waste**

***Attention : do not dispose of frozen samples before the end of the study/publication of results***



# FOR MORE INFORMATION

*For more information, please contact the Scientific Committee Secretariat*

***Luc Ingenbleek (CPC)***

***Email : [ingenbleek@pasteur-yaounde.org](mailto:ingenbleek@pasteur-yaounde.org)***

***Email : [luc.ingenbleek@gmail.com](mailto:luc.ingenbleek@gmail.com)***

***Dr Jean-Charles Leblanc (FAO)***

***Email : [JeanCharles.Leblanc@fao.org](mailto:JeanCharles.Leblanc@fao.org)***

***Dr Philippe Verger (WHO)***

***Email : [vergerp@who.int](mailto:vergerp@who.int)***



***THANK YOU FOR YOUR CONTRIBUTIONS!***

