

# East Africa Workshop on the Development of National and Regional Regulations and Standards on Lead in Paints, 13<sup>th</sup> Sept. 2016

## Kenyan Lead Paint Standard: Progress and Next Steps in the Development of the Standard

BY: DR. FARIDAH HUSSEIN WERE  
(KENYA)



Republic of Kenya

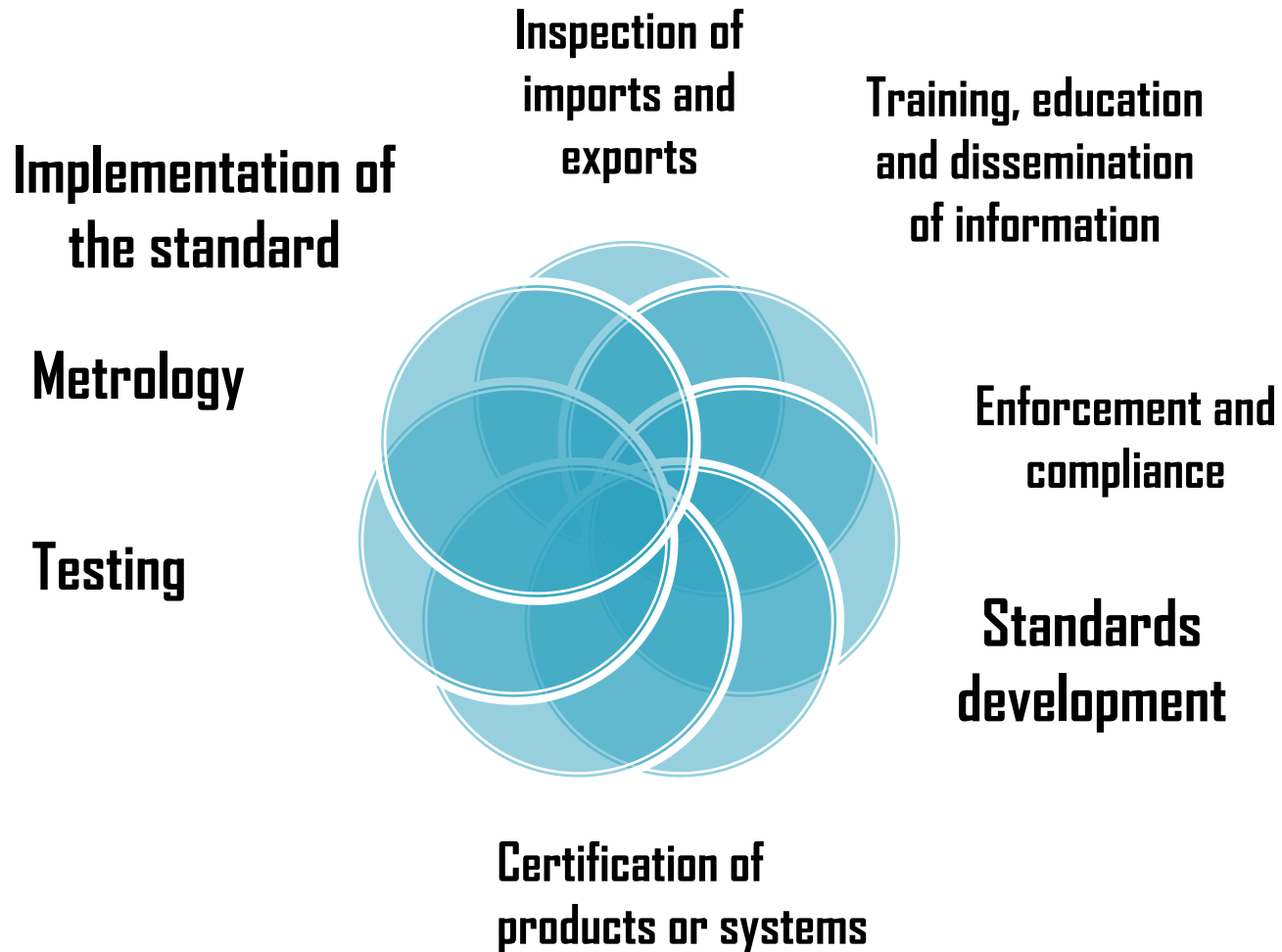
# The process of developing national lead paint standard

During the Addis Ababa meeting between 2<sup>nd</sup> and 4<sup>th</sup> December 2015, government officials and stakeholders from 15 African countries that included EAC joined lead paint alliance and agreed on 90 ppm as the total permissible level of lead in paint



In March 2016, the Kenya Bureau of Standards (KEBS), a statutory body established through the Standards Act (CAP 496) in 1974 under the Ministry of Industry, Trade and Cooperatives began the process of developing the National lead paint standard

# The role of regulatory institutions



## Technical committee involved in the development of lead paint standard

1. **Maroo Polymers Ltd**
2. **Galaxy Paints and Coatings Ltd**
3. **Sadolin Paints (EA) Ltd**
4. **Crown Paints Ltd**
5. **Basco Products, Kenya Ltd**

1. **Kenya Industrial Research and Development Institute**
2. **Ministry of Transport and Infrastructure Materials Division**
3. **Kenya Ferry Services**
4. **National Environment Management Authority**
5. **Government Chemist Division**
6. **Consumer Information Network**
7. **University of Nairobi**
8. **Kenya Ports Authority**
9. **Southern Engineering company**

Paint manufacturer representatives

Other key stakeholders

# Guidelines on methods of sampling and analysis of lead in paints

Determination of total lead  
in paints, varnishes,  
coatings and related  
products:

```
graph TD; A[Determination of total lead in paints, varnishes, coatings and related products:] --- B[Part 1: Preliminary examination of samples and sampling procedures]; A --- C[Part 2: Maximum permissive content of total lead in paint based on the dry weight];
```

**Part 1: Preliminary  
examination of samples  
and sampling procedures**

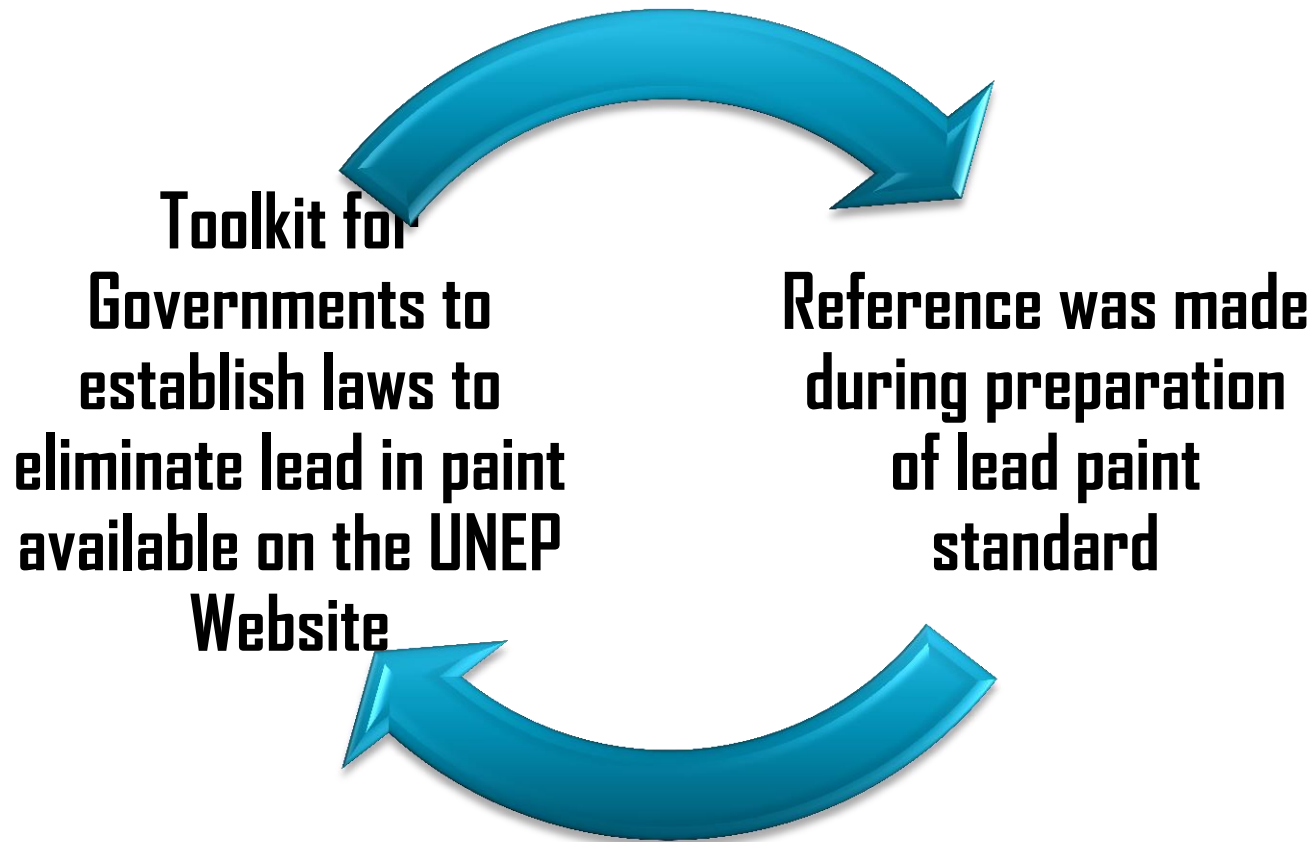
**Part 2: Maximum  
permissive content of  
total lead in paint based  
on the dry weight**

# The content of part I: lead paint standard

## FORWARD

- Lead is extremely hazardous, no safe level exists and lead in paint is a major source of exposure after leaded fuel
- It is a multi-system toxicant, vulnerable groups are women of reproductive age and children
- National economic loss due to childhood lead exposure is estimated at \$53.76 billion dollars (5.26% GDP)
- Elimination of lead in paint has economic benefits related to reduction of healthcare costs, intellectual disability and exposure to legacy lead paint
- There is readily available cost effective lead free alternatives
- There is proven success in establishment of legal systems in controlling lead in paint resulting in tremendous reduction in lead poisoning

# Reference and acknowledgement



# Scope

This Kenya standard prescribes:

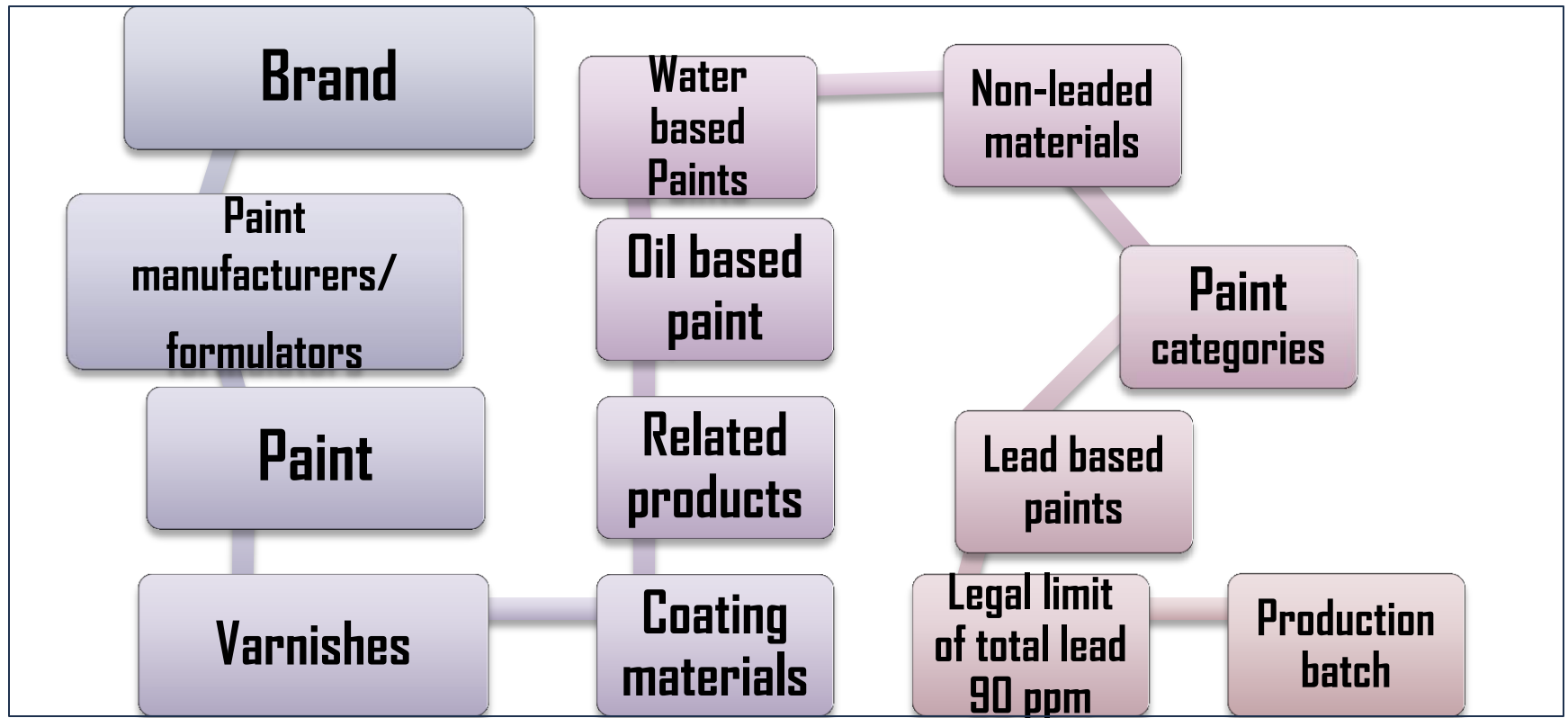
**Sample collection and handling for laboratory analysis**



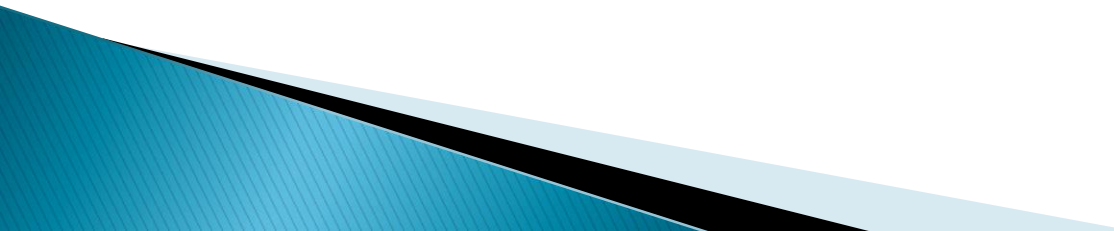
# Normative references

- ▶ **The following documents are indispensable for the application of this standard:**
- 1. **KS ISO 4618-1, Paints and varnishes – terminology**
- 2. **KS ISO 1514 paints and varnishes**
- 3. **ASTM E-1645-1, Preparation of paint samples and digestion**
- 4. **ASTM E-1613-12, (ICP-AES),**
- 5. **ISO-6503 Paint and varnishes FAAS/GAAS techniques**

The terms and definitions of KS ISO 4618-1 and other references given in this standard shall apply for the purposes of this standard



# Sampling plan

- 1. Sampling shall be carried out following the standard procedures**
  - 2. Representative samples of paints, varnishes, coatings and related products shall be randomly collected from the market place, factories and elsewhere**
  - 3. Samples of at least 2x1 litre shall be collected for analysis**
- 

# Sample preparation



- ▶ Appropriate personal protective equipment should be worn

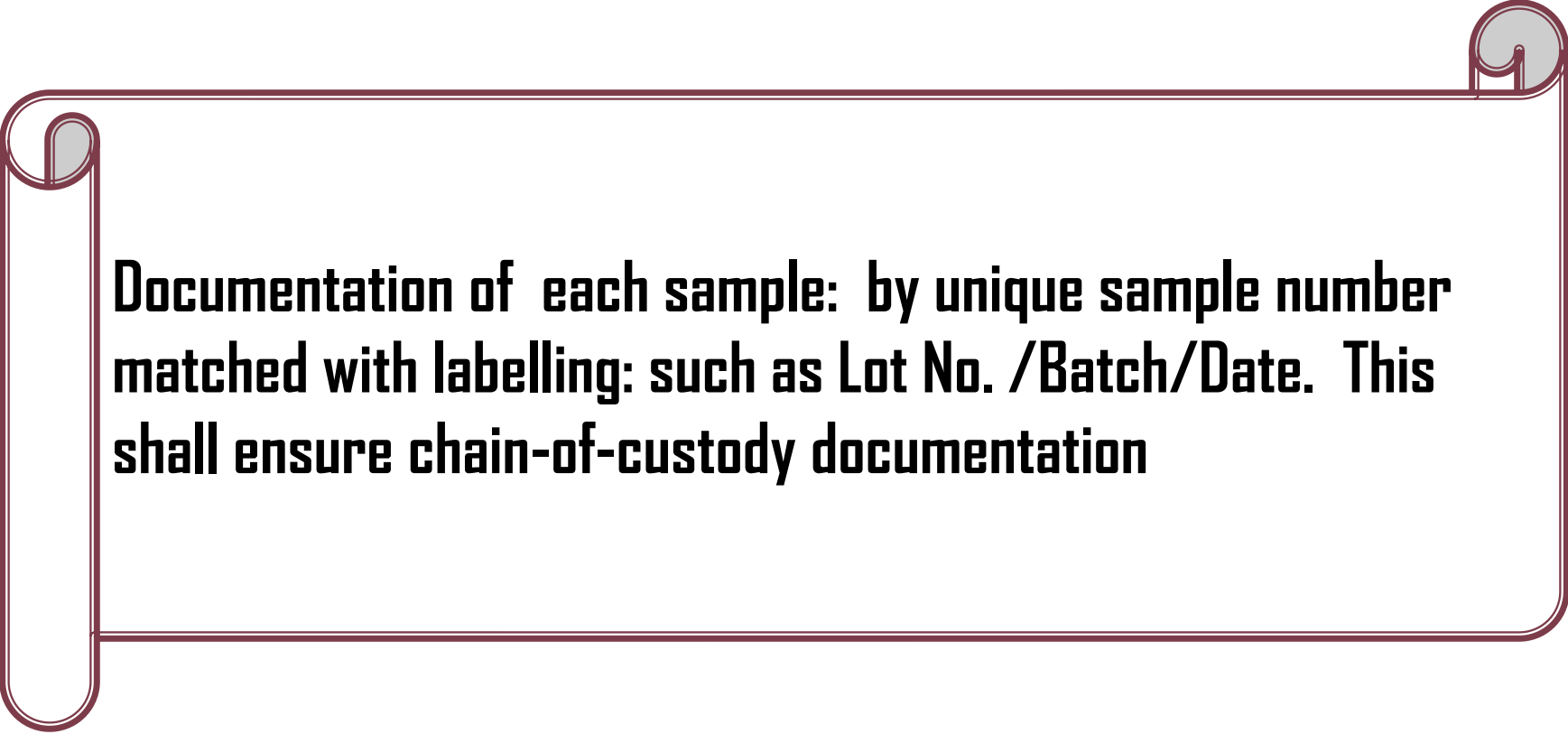
**Thin layer using a slide or wood shall be applied**



# Samples shall be dried under the sun or in the oven



- ▶ A razor blade shall be used to scrape dried sample in the sample container



**Documentation of each sample: by unique sample number matched with labelling: such as Lot No. /Batch/Date. This shall ensure chain-of-custody documentation**

# **Content of the part II of lead paint standard**

**Part II of the standard has the same content as part I that include: forward, definitions and references**



# Scope

This Kenya standard prescribes:

**Requirement for test method of total lead content based on dry weight of paint, varnishes, coatings and related products**

# Requirements

- ▶ **Paints varnishes, coatings and related products shall be manufactured/formulated following good manufacturing practices**
- ▶ **The presence of lead in these products shall be as result of a natural contaminant not as an additives**
- ▶ **The dried collected sample shall be analyzed in a laboratory that has accreditation program**

General requirement for compliance

# Methods for analysis of total lead

**Digestion of the samples shall be carried out using hot plates/Block digester or microwave**

The standard procedure shall be followed

# Some common analytical methods



Inductively Coupled Plasma Atomic Emission Spectrometry

# Atomic Absorption Spectroscopy



# The public review period of 60 days ended on 25<sup>th</sup> August 2016

**The TC members developed two drafts to regulate total lead content in paints, varnishes, coatings and related products**

**CD/CHEM/120/2016 - Paints, varnishes, coatings and related products – Determination of total lead—Part 1: Preliminary examination of samples and sampling procedure**

**CD/CHEM/120/2016 - Paints, varnishes, coatings and related products – Determination of total lead—Part 2: Maximum permissible content of total lead based on dry weight**

# After public review process of lead paint standard

**Comments on the two drafts have been received by KEBS**

**The TC members are in the process of evaluating the public views and incorporating them in the draft as necessary**

**TC members will ballot on the draft and move it to the next level of SAC. The Standards approval committee will subsequently approve the Standards as Kenyan Standards**

**The Standards will be gazetted as Kenya Standards ready for implementation by December 2016**

# Harmonization of lead paint standards



The Kenyan lead paint standard shall then be harmonized at the EAC



# END

# Thank you



**Republic of Kenya**