Training workshop "Safety of food contact materials: exposure assessment of chemicals in foods and the use of FACET for exposure assessment"

Ispra, 07 October 2014

Catherine Simoneau, Philippe Hannaert (eds)
Seamus Kelly, Aileen Connolly (authors/trainers)

2014
Two concurrent Workshops on “Safety of food contact materials: migration testing and exposure assessment of chemicals in foods” are organised by the JRC’s European Reference Laboratory for Food Contact Materials on 07-08 October 2014 in Ispra. These workshops were dedicated to training and exchange of information capacity building for National Reference Laboratories, Member States and stakeholders in the area of safety of food contact materials. It also includes a special opportunity for participation under EC’s Enlargement & Integration activities.

This report presents the specific workshop on the use of FACET. The Flavourings, Additives, food Contact materials Exposure Tool (FACET) is a novel exposure tool which was created as an FP7 EU funded research project which ran from 2008 to 2012. The JRC, beyond its participation as project partner, was designated as responsible entity for the dissemination and sustainability of the tool. A workshop was offered on the newest exposure tool for the prediction of exposure assessment of chemicals in foods including food contact materials. A demonstration of the tool was dedicated for the first time to NRLs and/or Member States and could include optional participation to other interested stakeholders including opportunity for participation under EC’s Enlargement & Integration activities.
Executive Summary

Ensuring that what we eat is safe does not stop at testing the food itself. Everything that comes in contact with food as it is produced, packaged, transported, stored, prepared and consumed also needs to be safe. European legislation on food contact materials has a long history.

Two concurrent Workshops on "Safety of food contact materials: migration testing and exposure assessment of chemicals in foods" were organised by the JRC’s European Reference Laboratory for Food Contact Materials on 07-08 October 2014 in Ispra. These workshops were dedicated to training and exchange of information capacity building for National Reference Laboratories, Member States and stakeholders in the area of safety of food contact materials. They also included a special opportunity for participation under EC’s Enlargement & Integration activities.

This report presents the specific workshop on the use of FACET. The Flavourings, Additives, food Contact materials Exposure Tool (FACET) is a novel exposure tool which was created as an FP7 EU funded research project which ran from 2008 to 2012. The JRC, beyond its participation as project partner, was designated as responsible entity for the dissemination and sustainability of the tool. A workshop was offered on the newest exposure tool for the prediction of exposure assessment of chemicals in foods including food contact materials. A demonstration of the tool was dedicated for the first time to NRLs and/or Member States and could include optional participation to other interested stakeholders including opportunity for participation under EC’s Enlargement & Integration activities.

Table of Contents

Executive Summary.......................................................................................................................... 1
Workshop training programme ......................................................................................................... 2
Session 1: introduction to FACET .................................................................................................. 3
Session 2: FACET for food additives.............................................................................................. 15
Session 3: FACET for food flavourings.......................................................................................... 21
Exercises........................................................................................................................................ 32
Annex 1: Feedback from participants – customer satisfaction ....................................................... 39
Workshop training programme

The programme included:

- Overview of FACET and its capabilities
- Getting started (including hands-on exercises)
- Outputs and reports etc.
- Pre-population (hands on exercises)
- More advanced options
- Users’ experiences and lessons learnt/ debriefing
- Discussion and summing up

The specific agenda is presented below. The trainers were S. Kelly and A. Connolly from CremeGlobal who were the modellers in the FP7 project FACET and contribute to the sustainability of the tool together with the JRC.

FACET Food Contact Materials
- Overview of FACET Packaging
  - Basic Packaging Assessment (Example): BPA for UK 19-64 year olds
  - Statistical Terminology and Examples
  - Basic Packaging Assessment (Exercise): Styrene for UK 19-64 year olds
  - Assess Lowest Tiers (Example): BPA for UK 19-64 year olds
  - Assess Lowest Tiers (Exercise): Styrene for UK 19-64 year olds
  - Creating your own Concentration Data table and running an exposure assessment
  - Exporting Graphs, Data and Reports from FACET
  - Discussion and Questions
- Advanced Packaging Features: Creating a New Packaging Structure for a Food and Running an Exposure Assessment for a chosen substance.
  - Discussion and Questions

FACET Flavourings
- Overview of FACET Flavourings
  - Basic Flavouring Assessment (Example): Isoamyl Acetate (Fl. No. = 9024)
  - Basic Flavouring Assessment (Exercise): Trans-2-Hexenal (Fl. No. = 5073)
- Refined Flavouring Assessment using Probability of Addition (Example): Isoamyl Acetate
  - Discussion and Questions

FACET Additives
- Overview of FACET Additives
  - Additive Assessments using Pre-Installed Data (Example): Sunset Yellow (E110)
  - Additive Assessments using Pre-Installed Data (Exercise): Green S (E142)
- Application of Concentration Ranges (fixed or distributional) with occurrence data (Example): Sunset Yellow
  - Questions, Discussion and Summing Up
Session 1: introduction to FACET

FACET FCM Overview

Dr. Seamus Kelly
Dr. Aileen Connolly
Creme Global
2014

Overview of FACET

- Objective:
  - Create a Food Chemical Exposure Surveillance System which covers representative regions of the EU
  - Exposure to Additives, Flavourings and Material Substances
  - Interest to Industry

- Duration: 2008 – 2012
- 20 collaborative partners across EU
What can FACET do for FCMs?

1. Populate a database of substance migration in foods
2. Estimate dietary exposure to food packaging substances
3. Break down contribution to exposure by:
   a. Food type
   b. Packaging type
4. Estimate exposure to a new packaging type brought to market

Product Safety?

- Different Approaches can be used to estimate concentration levels (Estimated Daily Intake (EDI)) of the migrant in the food
- Once EDI is calculated then it can be compared to a Tolerable Daily Intake (TDI). If EDI < TDI, then the product is safe. Otherwise, further testing is required.
Exposure: Method 1

- Method 1:
  - Assume 100% migration of the migrant
  - Assume that every day an adult person consumes 1kg of food packaged in a 1 dm³ cube with a SA of 6 dm²
  - EDI(mg/person/day) = 1kg food/person/day * Migration (mg/kg food)

Exposure: Method 2

- Method 2: FACET
  - Diffusion model used to estimate migration of migrant into food
  - Consumption diaries used to estimate levels of consumption of different foods
  - EDI(mg/person/day) = Consumption(foodA) * Migration of substance from PackX into foodA / Subject Bw.
Probabilistic Dietary Exposure

**BASIC PRINCIPLES**

**Basic Principle**

\[ \text{Amount of Food} \times \text{Concentration of Substance} = \text{Dietary Exposure} \]
Data Inputs: Consumption Data

- **Food Diaries**
  - **Countries**
    - Finland, France, Hungary, Ireland, Italy, Poland, Portugal, UK.
  - **Subject Diaries**
    - SubjectId, Country, Gender, Age, Weighting
  - **Consumption Diaries**
    - SubjectId, Food, Frequency, Amount

Other Data Inputs

- **Retail Data**: Contact Ratios, Pack Sizes, Market Shares
- **Industry Data**: Material Layers, Time/Temperature Regimes, Thicknesses
- **Migrant Data**: Migrant Concentrations in Materials, Presence Probabilities
**Linking Foods to Migrants**

- **Consumption Diary** → Food, e.g. P08.1.1
  - Components, Contact Ratios, Market Share, Pack size, Source
  - Layers of materials, Time/Temperature regimes, thicknesses
- **PASTA Table (Retail)** → Migrant concentration, presence probability
- **Industry Source**
- **Migrant/Material**

**Migration Model for Multi-Layer Packaging**

- Model is one-dimensional PDE that outputs the concentration of a migrant in food as a function of time
- Model is based on Fick’s second law of diffusion.
### Packaging Structure

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer 1</td>
<td>Outside Layer</td>
</tr>
<tr>
<td>Layer 2</td>
<td></td>
</tr>
<tr>
<td>Layer 3</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
</tr>
<tr>
<td>Layer N</td>
<td>Food Contact Layer</td>
</tr>
<tr>
<td>Food</td>
<td></td>
</tr>
</tbody>
</table>

### Inputs into Migration Model

- Layer Thicknesses
- Contact area
- Layer densities
- Time and temperature regimes
- Migrant concentrations
- Diffusion coefficient
- Partition coefficients

Migration Module → Concentration
Also Required

- Diffusion Coefficient for each material/migrant combination = 
  \[ f(A_p, \tau, M_w, T) \]
  - \( A_p, \tau \) are diffusion coefficient parameters
  - \( M_w \) is the molecular weight of molecule
  - \( T \) is the temperature
  - \( f \) is Piringer’s Formula

Also Required

- Partition coefficients for each material/material and material/food interface
- Densities of foods and materials
Packaging Structure

Partition Coefficients

Layer 1 (Outside Layer)
Layer 2
Layer 3
...
Layer N (Food Contact Layer)
Food

Determining Exposure

- To determine exposure at each event:

\[ \text{Exposure} = \sum_{\text{Food quanta consumed}} [\text{Food Amount}] \times [\text{Concentration of Migrant}] \]

- Concentration is pre-calculated as a distribution; therefore MC simulations required.
Statistical Background
Statistical Background

- Exposure is usually calculated in a population; therefore variable.
- Generally a distribution of exposure is estimated, taking into account the variability in the population.
- Once the distribution of exposure is calculated, it is described using various statistics.

Exposure Statistics

- Mean: the arithmetic mean or average exposure in the population.
- Percentile: Value of a variable below which a certain percent of observations fall.
  - E.g. the P20 is the value below which 20% of the exposures fall.
- In risk assessment, the upper percentiles are typically most important, e.g. the P95 of exposure.
Percentiles

Distribution of Subjects

Frequency

P5  P50  P95

Relevant Questions for an Exposure Assessment

- What is the mean exposure in the total population?
- What is the P95 of exposure?
- What is the mean exposure amongst consumers who consume that food?
- What is the P95 of exposure amongst food consumers?
- What is the acceptable/tolerable/recommended daily intake?
Session 2: FACET for food addditives

FACET Additives Overview

Dr. Aileen Connolly
Dr. Seamus Kelly
Creme Global
2013

What can FACET do?

1. Estimate dietary exposure to food additives using food consumption data combined with:
   1. Maximum Permitted Levels
   2. Industry data
   3. Occurrence data
2. Break down contribution to exposure by food type
3. Estimate exposure using a new set of concentration data
Probabilistic Dietary Exposure

BASIC PRINCIPLES

Basic Principle

Amount of Food \times \text{Concentration of Substance} = \text{Dietary Exposure}
Consumption Data

- Food Diaries
  - Countries
    - Finland, France, Hungary, Ireland, Italy, Poland, Portugal, UK.
  - Subject Diaries
    - SubjectId, Country, Gender, Age, Weighting
  - Consumption Diaries
    - SubjectId, Food, Frequency, Amount

Diary Sizes

<table>
<thead>
<tr>
<th>Country</th>
<th>Subjects</th>
<th>Consumption Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>4,079</td>
<td>541,453</td>
</tr>
<tr>
<td>Italy</td>
<td>3,322</td>
<td>322,178</td>
</tr>
<tr>
<td>UK (16-64)</td>
<td>1,631</td>
<td>298,086</td>
</tr>
</tbody>
</table>
Dietary Surveys

Additive Exposure Algorithm

1. Choose Additive of interest
2. Find all foods that contains that additive
3. Find all consumption events in the Diary involving those foods
4. Determine the exposure to the additive at each eating event
5. Collate exposures from each consumption event to give the distribution of exposure to the additive in the population
**FACET Food Codes**

- System is tiered, e.g.
  - A.05: Chocolate products and confectionary
    - A.05.1: Cocoa and chocolate products
      - A05.1.2: Cocoa-based spreads
    - A.05.2: Confectionary including hard and soft candy
      - A.05.2.1: Glucose syrup-based confectionery
      - A.05.2.2: Sugar confectionary

- More information specific to food can be included via additive flags:
  - Nutritional information (e.g. Low fat, sugar reduced)
  - Topping (e.g. Chocolate topping, whipped cream)
  - Coating
  - Filling

**Concentration Sources**

\[
\text{Exposure} = \sum_{\text{Food quanta consumed}} \text{[Food Amount]} \times \text{[Concentration of Additive]}
\]

- Regulatory data
  - Maximum Permitted Levels (MPLs)
- Industry Data
  - Typical Min
  - Typical Max
  - Extreme Min
  - Extreme Max
  - Fitted distribution

- Can be assessed with or without probability of occurrence
Relevant Questions for an Exposure Assessment

- What is the mean exposure in the total population?
- What is the P95 of exposure?
- What is the mean exposure amongst consumers who consume that food?
- What is the P95 of exposure amongst food consumers?
- What is the acceptable/tolerable/recommended daily intake?
Session 3: FACET for food flavourings

FACET Flavours Overview

Dr. Seamus Kelly
Dr. Aileen Connolly
Creme Global
October 2014

Flavourings: What can FACET do?

1. Estimate dietary exposure using screening methods.
2. Estimate dietary exposure to Added and Natural flavourings using a more refined approach.
Flavouring Assessments

Approach 1

Using Screening Methods
Screening Methods

- Theoretical Added Maximum Daily Intake Method (TAMDI)
- Modified TAMDI (mTAMDI)
- Single Portion Exposure Technique (SPET)
- Added Portions Exposure Technique (APET)

Screening Method (mTAMDI)

<table>
<thead>
<tr>
<th>Food Groups</th>
<th>TAMDI Consumption (g/day)</th>
<th>Average Use Level (AUL) (mg/kg)</th>
<th>mTAMDI Exposure (mg/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>133.4</td>
<td>3.1</td>
<td>4.134</td>
</tr>
<tr>
<td>Beverages</td>
<td>324</td>
<td>0.6</td>
<td>0.194</td>
</tr>
<tr>
<td>Exceptions:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Candy</td>
<td>27</td>
<td>9</td>
<td>0.243</td>
</tr>
<tr>
<td>b) Condiments</td>
<td>20</td>
<td>0.1</td>
<td>0.002</td>
</tr>
<tr>
<td>c) Alcoholic beverages</td>
<td>20</td>
<td>0.9</td>
<td>0.0018</td>
</tr>
<tr>
<td>d) Soups</td>
<td>20</td>
<td>0.6</td>
<td>0.012</td>
</tr>
<tr>
<td>e) Other exceptions</td>
<td>2</td>
<td>0.1</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

Total: 1.867
Approach 2

Using a Diary Driven Approach

Basic Principle

Amount of Food (from Food Diaries) \times \text{Concentration of Substance (from Concentration Tables)} = \text{Dietary Exposure}
Consumption Data

- **Food Diaries**
  - **Countries**
    - Finland, France, Hungary, Ireland, Italy, Poland, Portugal, UK.
  - **Subject Diaries**
    - SubjectId, Country, Gender, Age, Weighting
  - **Consumption Diaries**
    - SubjectId, Food, Frequency, Amount

Diary Sizes

<table>
<thead>
<tr>
<th>Country</th>
<th>Subjects</th>
<th>Consumption Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>4,079</td>
<td>541,453</td>
</tr>
<tr>
<td>Italy</td>
<td>3,322</td>
<td>322,178</td>
</tr>
<tr>
<td>UK (16-64)</td>
<td>1,631</td>
<td>298,086</td>
</tr>
</tbody>
</table>
Concentration Data

- Eight possible sources of concentration data for added flavourings (2700+ flavourings):
  - FEMA
  - CoE
  - EFSA
  - Young et al.

- For naturally occurring flavourings, the TNO database was used

Flavouring Exposure Algorithm

1. Choose Flavouring of interest
2. Choose source of flavouring concentration information
3. Find all foods that contain that flavouring
4. Find all consumption events in the Diary involving those foods
5. Determine the exposure to the flavouring at each eating event
6. Collate exposures from each consumption event to give the distribution of exposure to the flavouring in the population
Added Flavourings

Three Assessment Types

- **Basic**
  - Covers all 2700 substances
  - All eating events involving foods with non-zero concentration for that substance are used

- **Intermediate**
  - Covers all 2700 substances
  - All eating events with non-zero concentrations for that substance considered except
    - Foods with flag "Without Added Flavouring"
    - Foods with "Unprocessed" packaging flag in food category "Fruits, Nuts and Seeds"
Three Assessment Types

- Refined
  - All eating events involving foods with non-zero concentrations are used and the full FACET flavouring flag system is used to determine exposure

Example of Added Flavouring Assessment

<table>
<thead>
<tr>
<th>Event</th>
<th>Subject</th>
<th>Day</th>
<th>Food</th>
<th>Amt (g)</th>
<th>FL 6</th>
<th>FL 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1324</td>
<td>1</td>
<td>F14.4.1</td>
<td>100</td>
<td>1: Without</td>
<td>-3: NFI</td>
</tr>
<tr>
<td>2</td>
<td>1324</td>
<td>1</td>
<td>F14.4.1</td>
<td>250</td>
<td>2: With</td>
<td>-3: NFI</td>
</tr>
<tr>
<td>3</td>
<td>1324</td>
<td>2</td>
<td>F14.4.1</td>
<td>150</td>
<td>19: Raspberry</td>
<td>18: Strawberry</td>
</tr>
<tr>
<td>4</td>
<td>1324</td>
<td>2</td>
<td>F14.4.1</td>
<td>150</td>
<td>6: Vanilla</td>
<td>-3: NFI</td>
</tr>
<tr>
<td>5</td>
<td>1324</td>
<td>2</td>
<td>F14.4.1</td>
<td>200</td>
<td>-3: NFI</td>
<td>-3: NFI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food</th>
<th>Substance</th>
<th>Typical Conc (mg/kg)</th>
<th>Upper Conc (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F14.4.1</td>
<td>Raspberry Ketone</td>
<td>0.05</td>
<td>0.1</td>
</tr>
<tr>
<td>F14.4.1</td>
<td>Vanillin</td>
<td>0.1</td>
<td>0.15</td>
</tr>
</tbody>
</table>
Comparing Assessments

- **Basic**
  - Flags not used
  - All 5 eating events have exposure to both Raspberry and Vanillin

- **Intermediate**
  - Events with flag value “Without Added Flavourings” are ignored
  - Only events 2-5 are considered

Refined Assessment

- Full flags system is used
- Extra Probability of Addition table required

<table>
<thead>
<tr>
<th>Substance</th>
<th>Food</th>
<th>Flag Value</th>
<th>Prob of Addition</th>
<th>Refined Conc Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raspberry Ketone</td>
<td>F14.4.1</td>
<td>11: Forest Fruits</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Raspberry Ketone</td>
<td>F14.4.1</td>
<td>18: Strawberry</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Raspberry Ketone</td>
<td>F14.4.1</td>
<td>19: Raspberry</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>Vanillin</td>
<td>F14.4.1</td>
<td>6: Vanilla</td>
<td>0.7</td>
<td>0.12</td>
</tr>
</tbody>
</table>
Refined Assessment

- Refined
  - Only eating events with non-zero probability of addition value for one of its flags are used
  - Event 2 has exposure to both Raspberry Ketone and Vanillin
  - Event 3 has exposure to Raspberry Ketone
  - Event 4 has exposure to Vanillin

Natural Flavourings
Natural Flavouring

- Here concentration values are calculated from TNO database
- Natural flavourings include:
  - Flavourings that exist naturally in the food
  - Flavouring that exists naturally in an ingredient in the food
- Total Dietary Exposure = Dietary Exposure (Added Flavourings) + Dietary Exposure (Natural Flavourings)

Relevant Questions for an Exposure Assessment

- What is the mean exposure in the total population?
- What is the P95 of exposure?
- What is the mean exposure amongst consumers who consume that food?
- What is the P95 of exposure amongst food consumers?
- What is the acceptable/tolerable daily intake?
Exercises

FACET Workshop Exercises

“Exercises for FACET software”
Contents

1 Document Metadata ........................................................................................................ III

2 Exercises .......................................................................................................................... 1
  2.1 Exercises: Food Contact Materials ............................................................................... 1
      2.1.1 Exercises: Running a Basic Packaging Assessment ............................................... 1
      2.1.2 Exercises: Working at Lowest Tier ........................................................................ 1
      2.1.3 Exercises: Examining Results ................................................................................ 2
      2.1.4 Exercises: Entering extraction/migration data ....................................................... 2
       2.2 Exercises: Food Flavourings .................................................................................. 3
            2.2.1 Exercises: Running a Basic Flavourings Assessment ........................................ 3
       2.3 Exercises: Food Additives ..................................................................................... 4
            2.3.1 Exercises: Running a Basic Additives Assessment ............................................. 4
1 Document Metadata

Document Title: FACET Workshop Exercises
Exercises for FACET Software

Author: Creme Global Ltd
info@cremeglobal.com

Creme Global
4th Floor, The Tower
Trinity Enterprise and Technology Campus
Grand Canal Quay
Dublin 2
IRELAND
http://www.cremeglobal.com

Date: 07 October 2014

Version Number: 1.0

Client: JRC

Contributors: Dr. Seamus Kelly
Mr. Glen O’Mahony
2 Exercises

This section contains exercises which present the user with an opportunity to become familiar with the functionality of the FACET software in the areas of packaging, flavourings, and additives.

2.1 Exercises: Food Contact Materials

2.1.1 Exercises: Running a Basic Packaging Assessment

Run a Packaging Assessment satisfying the following criteria:

(i) Substance: 1334
(ii) Pack Types: All Pack Types
(iii) Foods: All Foods
(iv) Survey: UK 19-64
(v) Select Males between the ages of 20 and 25
(vi) Assessment Name: Substance: 1334 — Survey: UK_19-64 — Packs: All — Foods: All — Loyal: Yes
(vii) Select "With consumer loyalty"

2.1.2 Exercises: Working at Lowest Tier

Run a Packaging Assessment (at the lowest tier) satisfying the following criteria

(i) Substance: 1334
(ii) Pack Types: All
(iii) Food Categories: Main driver from Exercise 2.1.1
(iv) Survey: UK NDNS 2000 19-64
(v) Loyalty: With
(vi) Use SelOff: No
2.1.3 Exercises: Examining Results

In the first exercise the assessment “Substance: 1334 – Survey: UK_19-04 – Packs: All – Foods: All – Loyal: Yes” was created. Using the outputs from this assessment complete the following tasks.

(i) Download the bar chart broken down “By Food Category” described as follows: “Per unit body weight” for “Total Population”
(ii) Download the bar chart broken down “By Food Category” described as follows: “Per unit body weight” for “Food Consumers”
(iii) Download the data broken down “By Food Category”
(iv) Download the pie chart broken down “By Food Category” described as follows: “Per unit body weight” for “Total Population”
(v) Download the bar chart broken down “By Pack Type” described as follows: “Per unit body weight” for “Total Population”
(vi) Download the Report summarising the assessment outputs.

2.1.4 Exercises: Entering extraction/migration data

Use the “New Packaging Wizard” and “New Assessment” tools to initially establish the concentration levels of the given substance in the chosen foods in (i) and hence run an exposure assessment for the chosen country in (ii).

(i) Existing Substance in Non-Metal Pack Type
   a. Metal: No
   b. Existing Substance: Yes
   c. Substance: 1334 (styrene)
   d. Include set-off: No
   e. Surface / Volume: 0.6
   f. (Pack) Type: Plastic tray/pot/tub/cup
   g. Material Code: M.15.1 Non-expanded PS
   h. Concentration: 10
   i. Thickness: 250
   j. Food Categories: P.17.1.1 Spoonable Yogurt
   k. Pack Size: 250
   l. Time: 1 month
   m. Temperature: 40 degrees centigrade
   n. Table Name: Substance: 1334 – Metal: No – SetOff: No – Food: Spoonable Yoghurt
Use the results in (i) to run a Packaging Assessment satisfying the following criteria:

- Pack Types: All
- Food Categories: P 17 1.1 Spoonable Yoghurt
- Survey: UK NDNS 2000 19-64
- Assessment Name: Substance: 1334 – Metal: No – SetOff: No – Food: Spoonable Yoghurt
- Consumer Loyalty: Without
- Use SetOff: No

### 2.2 Exercises: Food Flavourings

#### 2.2.1 Exercises: Running a Basic Flavourings Assessment

Run a Flavouring Assessment satisfying the following criteria:

- Substance: Trans-2-hexenol (FL-no: 05.073)
- Concentration Data: EFFA
- Foods: All (but investigating top 3 contributors)
- Survey: Italy INRAN SCAI 2005
- Gender: Both
- Ages: 20 – 40 years
- Assess Using: Typical use levels
- Exclude foods without added flavourings: No
- Exclude unprocessed fruits, nuts and seeds: No
- Use probability of addition data: No
- Flavouring Source: Added and Natural
- Advanced Options: No
- Observe outputs/results in the report and graphs
2.3 Exercises: Food Additives

2.3.1 Exercises: Running a Basic Additives Assessment

Run an Additive Assessment satisfying the following criteria:

- Additive: Green S (E142)
- Foods: Selected Foods ('Non-Alcoholic Beverages', 'Alcoholic Beverages', 'Salts, spices, sauces & soups' and 'Breads & Bakery Wares')
- Survey: UK 19-64
- Gender: Both
- Ages: 20-22
- Assess Using: MPL
- Consumer Loyalty: No
- Include Occurrence Data: No
- Advanced Options: No
Annex 1: Feedback from participants – customer satisfaction
Note: it was very appreciated that industry people were also allowed to attend this training as well
Europe Direct is a service to help you find answers to your questions about the European Union.

Freephone number (*): 00 800 6 7 8 9 10 11

(*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

A great deal of additional information on the European Union is available on the Internet. It can be accessed through the Europa server http://europa.eu.

How to obtain EU publications

Our publications are available from EU Bookshop (http://bookshop.europa.eu), where you can place an order with the sales agent of your choice.

The Publications Office has a worldwide network of sales agents. You can obtain their contact details by sending a fax to (352) 29 29-42758.

European Commission

EUR 27020 EN – Joint Research Centre – Institute for Health and Consumer Protection

Title: Training workshop "Safety of food contact materials: exposure assessment of chemicals in foods and the use of FACET for exposure assessment"

Author(s): Seamus Kelly, Aileen Connolly (authors/trainers)
Editors: C. Simoneau, P., Hannaert (eds)

Luxembourg: Publications Office of the European Union

2014 – 42 pp. – 21.0 x 29.7 cm

EUR – Scientific and Technical Research series – ISSN 1831-9424

ISBN 978-92-79-44703-7 (PDF)

doi:10.2788/489333
JRC Mission

As the Commission’s in-house science service, the Joint Research Centre’s mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners.

Serving society
Stimulating innovation
Supporting legislation

doi:10.2788/489333