

GNT Presentation Slovenian Chamber of Commerce

22nd April 2015

EXBERRY® Colouring Foods

Perfect Solutions from Natural Sources®

GROWING COLOURS



THE GNT GROUP



GNT International B.V.
Headquarter, Production
Mierlo, NL

GNT Deutschland GmbH
Production
Heinsberg, DE

GNT Europa GmbH
Centre of Excellence
Aachen, DE



**Customer Service &
Application**

GNT UK Ltd.
Derby, GB

GNT Italia S.r.l.
Reggio Emilia, IT

GNT Iberia
Barcelona, ESP

GNT Polska
Poznan, PL

GNT France
Champagne-au-Mont-d'Or, FR

GNT Singapore Pte. Ltd.
Singapore

GNT USA, Inc.
Tarrytown, NY, US

GNT USA, Inc
Redwood City, CA, US

GNT Brazil
Sao Paulo, BR

INDEPENDENT – RESPONSIBLE – INNOVATIVE

- Independent, family owned group with >30 years manufacturing experience
- Primary processor of edible fruits, vegetables and plants, vertically integrated from farm to factory
- Market leading supplier delivering products that are high quality, consistent in colour, traceable to origin and always available
- Specialists in fruit and vegetable based colouring solutions
- Develop unique and innovative products that deliver competitive advantage to our customers



The EXBERRY logo, with the letters E, X, B, E, R, R, Y in a rainbow gradient.

- Colouring Foods
- Foods with colouring properties
- Concentrates made from edible ripe fruits, vegetables and/or other plants

The Nutrifood logo, with the letters N, u, t, r, i, f, o, o, d in a rainbow gradient.

- The Best of Fruits and Vegetables
- Fruit and vegetable concentrates
- Naturally provide phytonutrients

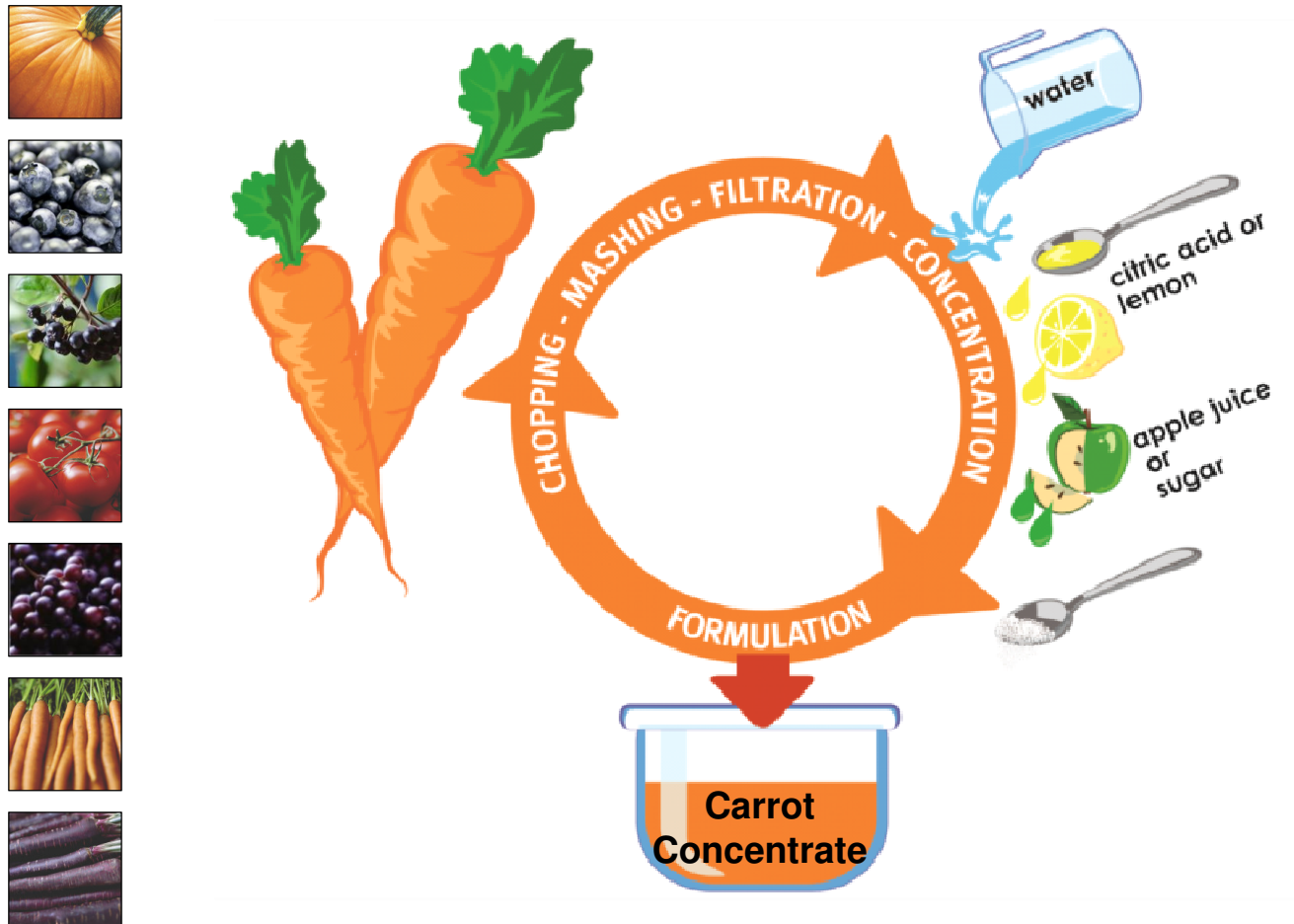
COLOURING FOOD

Excellence from Seed to Shelf

- Selection of Varieties
- Contract Farmers
- Harvest Control
- Physical Processing
- Standardisation
- Availability
- Flexibility
- [Film](#)



MANUFACTURING PROCESS



FOOD AND BEVERAGE COLOURING OPTIONS ...

... within the EU – Overview

Artificial Colour	"Non – artificial" Additive Colour	Colouring Foods	Fruit Juice
<ul style="list-style-type: none"> Chemical Process (synthesis) Food Additive 	<ul style="list-style-type: none"> Possible natural source (not necessarily edible) Selective extraction Mostly formulated (e.g. polysorbate) 	<ul style="list-style-type: none"> Edible raw materials No selective extraction Standardised colour shade and intensity 	<ul style="list-style-type: none"> Ingredients Not standardised on colour intensity Colour stability typically poor and inconsistent
Food Additives Require permission */**		Food No permission required <i>(quantum satis)</i>	

* REGULATION (EC) No 1333/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on food additives

** Commission Directive 2008/128/EC of 22 December 2008 laying down specific purity criteria concerning colours for use in foodstuffs

LABELLING RECOMMENDATION WITHIN THE EU

- Colouring Food
 - Colouring Food (concentrate of cherry, carrot)
- Colour Additive
 - Colour: E163
 - Colour: Anthocyanins

INDEPENDENT CONSUMER RESEARCH SHOWS:

- Health and wellness should form part of daily life
- Avoidance of perceived 'nasties' is high on the agenda (artificial additives)
- Careful selection for family, impact of purchaser vs. consumer
- Natural or perceived naturalness
- Clean-label, Fruit and vegetables are natural and healthy

▶ GNT believes that colourful foods should not have a negative perception and Colouring Foods are the key

WHAT INFLUENCES CONSUMER'S BEHAVIOUR?



"So I avoid E numbers, but if I choose a product with beta carotene in instead it actually is an E number? I can't believe they are so sneaky!"



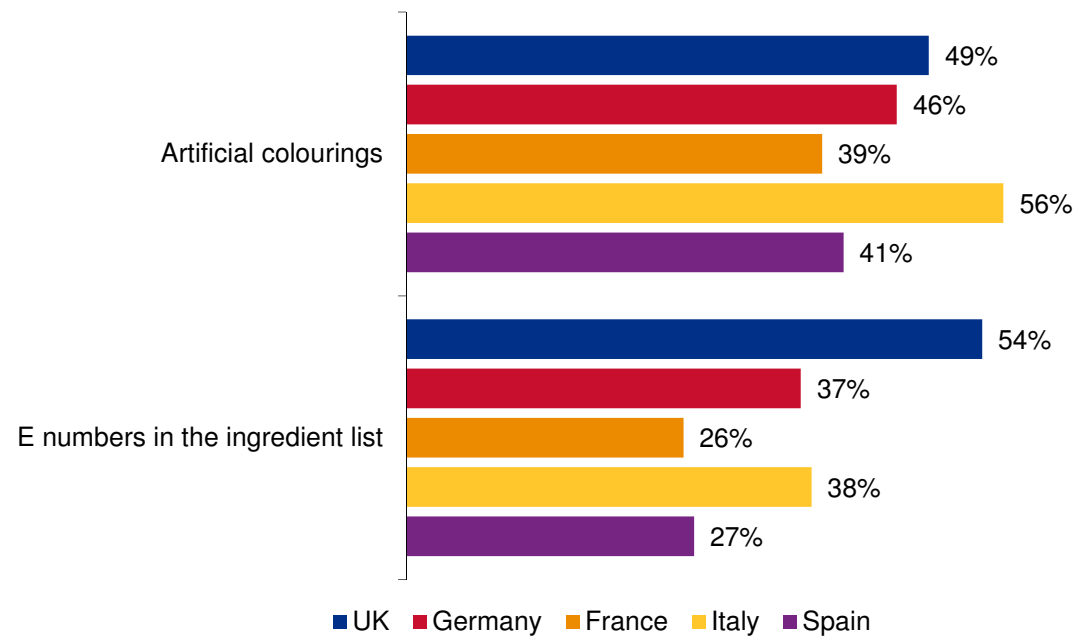
"I always look at the list of ingredients – any E numbers and I don't buy it!"

"You read really bad things about the effects of E numbers for children."

CONSUMER SHOPPING HABITS



Q2E. WHICH DO YOU ACTIVELY AVOID WHEN BUYING PRODUCTS FOR YOUR CHILDREN?



Even before being taken through the various processes used to derive colourings for food, consumers across Europe are sensitive towards, and actively avoid, artificial colourings; E numbers are also avoided, to a lesser degree, potentially indicating more limited knowledge about them.

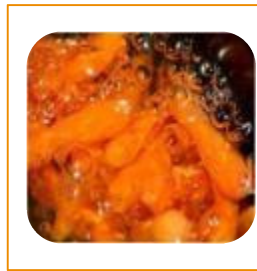
HOW WOULD YOU MAKE A NATURAL COLOUR? THE RESPONDENTS' VIEW



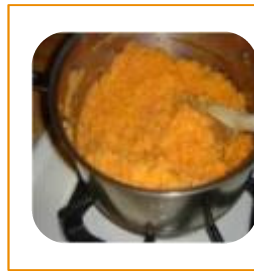
"YOU EXPECT IT TO BE THE COLOUR, IF YOU SQUEEZED A FRUIT ... AN ORANGE WOULD BE THE COLOUR THAT THE JUICE COMES OUT ... OR A BLACKCURRANT WOULD BE PURPLE."



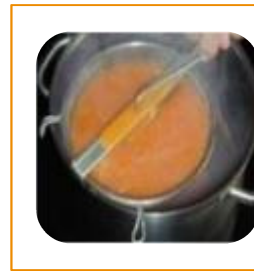
Starts with
a fresh
vegetable
or fruit



Ingredients
would be
boiled



Then
cooked
ingredients
mashed



Then
pureed...



...strained



And the
finish result
stored



Coloured Naturally with Fruits and Vegetables

91% of respondents in the UK agree that
this is the most natural way to colour food.

REACTIONS TO MANUFACTURING PROCESSES OF CARMINE AND COPPER CHLOROPHYLLIN



„We are being totally deceived, aren't we?“

“Probably everything has it,
they don't have any right to say
it is natural because at
the start it is.”



“So that says
'free of artificial colours
and flavours', which means
natural colours and flavours
and they [gums and pastilles]
have both got
Copper Chlorophyllin!”

COLOURING FOODS



Q8A/9A/10A. THIS IS A DESCRIPTION OF HOW A NATURAL FOOD COLOURING IS MADE. TO WHAT EXTENT DOES THIS MEET YOUR IDEA OF A NATURAL FOOD COLOURING?



'Colouring Foods' are seen as the best way to colour food naturally.

POSITIVE ON-PACK COMMUNICATION



EU Guidance Notes on the use of Colouring Foods

Published December 2013

GROWING COLOURS



WHY ARE GUIDANCE NOTES NEEDED?



Guidance Notes on the classification of food extracts with colouring properties

Additive Colour - Defined in EU regulation */**	
Artificial Colour	“Non-Artificial” Colour

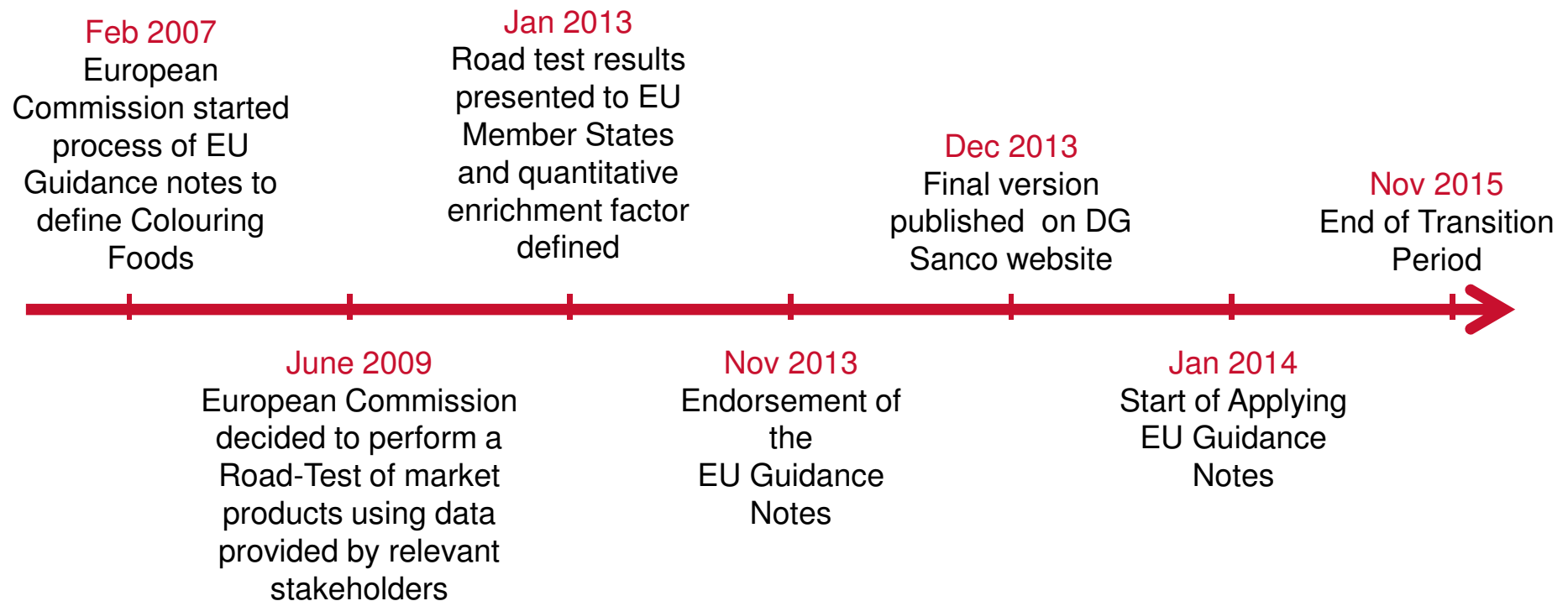
--- GUIDANCE NOTES ---

Colouring Foods NEW - Defined by EU Guidance Notes
Foods (not additives)

* REGULATION (EC) No 1333/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on food additives

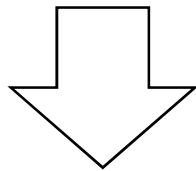
** COMMISSION REGULATION (EU) No 231/2012 of 9 March 2012 laying down specifications for food additives listed in Annexes II and III to Regulation (EC) No 1333/2008 of the European Parliament and of the Council

WHAT HAS BEEN THE PROCESS?

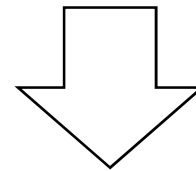


KEY QUESTIONS OF THE EU GUIDANCE NOTES DECISION TREE:

- Is it primarily used for its colouring effect?
- Is the source material(s) a food or characteristic ingredient of food?
- Does the source material undergo selective physical and/or chemical extraction? (refer to selective extraction criteria section)



Colouring Food



Colour Additive
(permitted or not permitted)

ENRICHMENT FACTOR



$$F_n = \frac{\frac{C_p}{N_p}}{\frac{C_s}{N_s}} \quad \text{or} \quad F_f = \frac{\frac{C_p}{A_p}}{\frac{C_s}{A_s}}$$

➔ **Threshold value for selective extraction is above 6**

Where:

- Cp = the "pigment(s) content " in the examined primary extract
- Cs = the "pigments (s) content " in the source material
- Np = the "nutritive constituents content" in the examined primary extract
- Ns = the "nutritive constituents content" in the source material
- Ap = the "aromatic constituents content" in the examined primary extract
- As = the "aromatic constituents content" in the source material
- Fn = the "enrichment factor " based on the nutritive constituents
- Ff = the "enrichment factor" based on the aromatic constituents

Note: For "Np" it is recommended to use total solids as reference (i.e. everything but water). Added extraneous components to the primary extract have to be deducted.
Reference values for source material have to be defined Annex III. Until Annex III has been established appropriate reference values or analytical data can be used.

EXAMPLE OF A CLASSIFICATION

Carrot root extract A:

- Enrichment Factor: $F(n) = 3$ and $F(f) = 1.3$
- Conclusion: extraction is non-selective
- Classification: Colouring Food

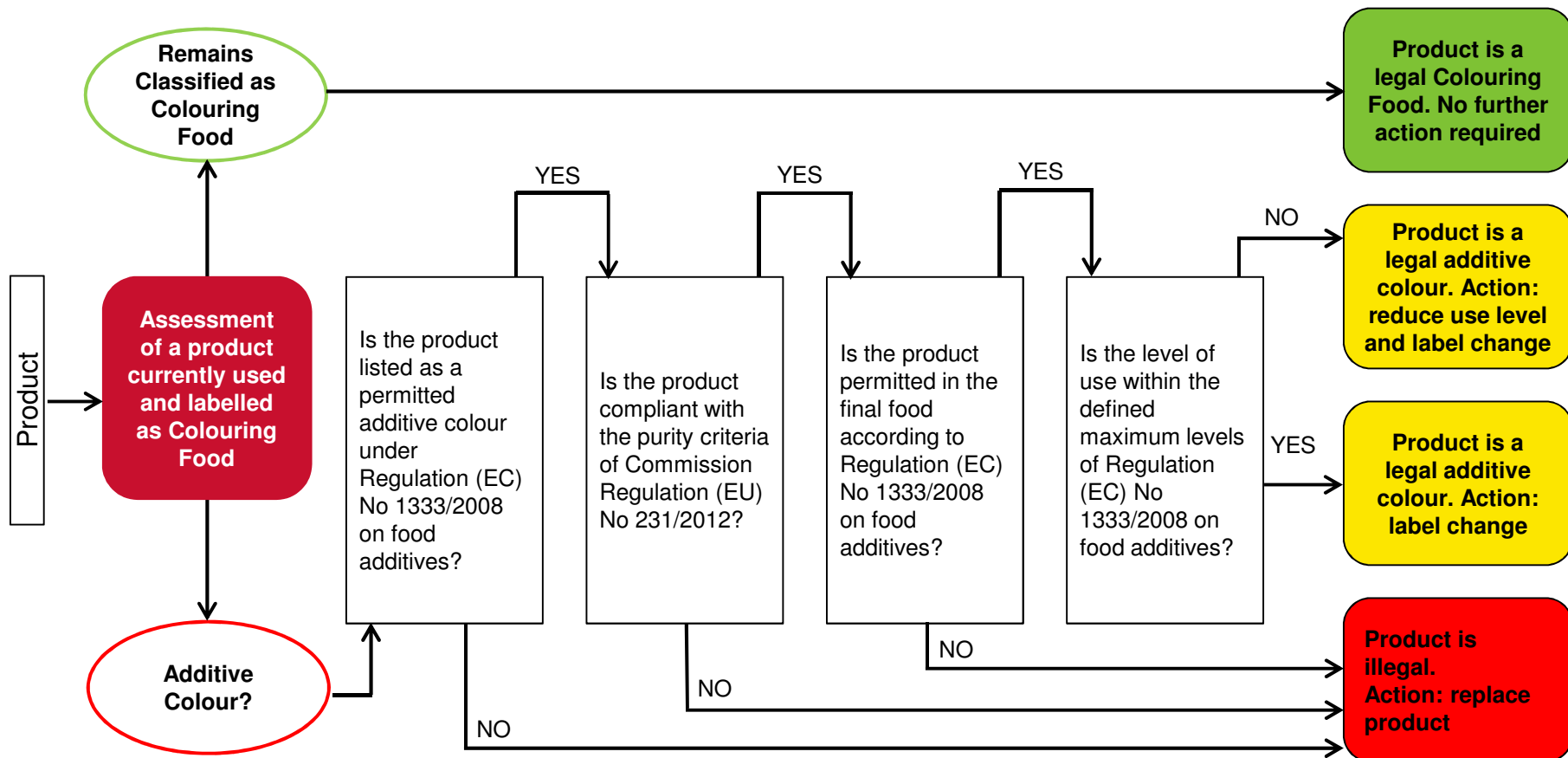
Carrot root extract B:

- Enrichment Factor: $F(n) = 40$ and $F(f) = 1.2$
- Conclusion: extraction is selective
- Classification: food colour not complying with the specifications

CONSEQUENCES AND NECESSARY ACTIONS



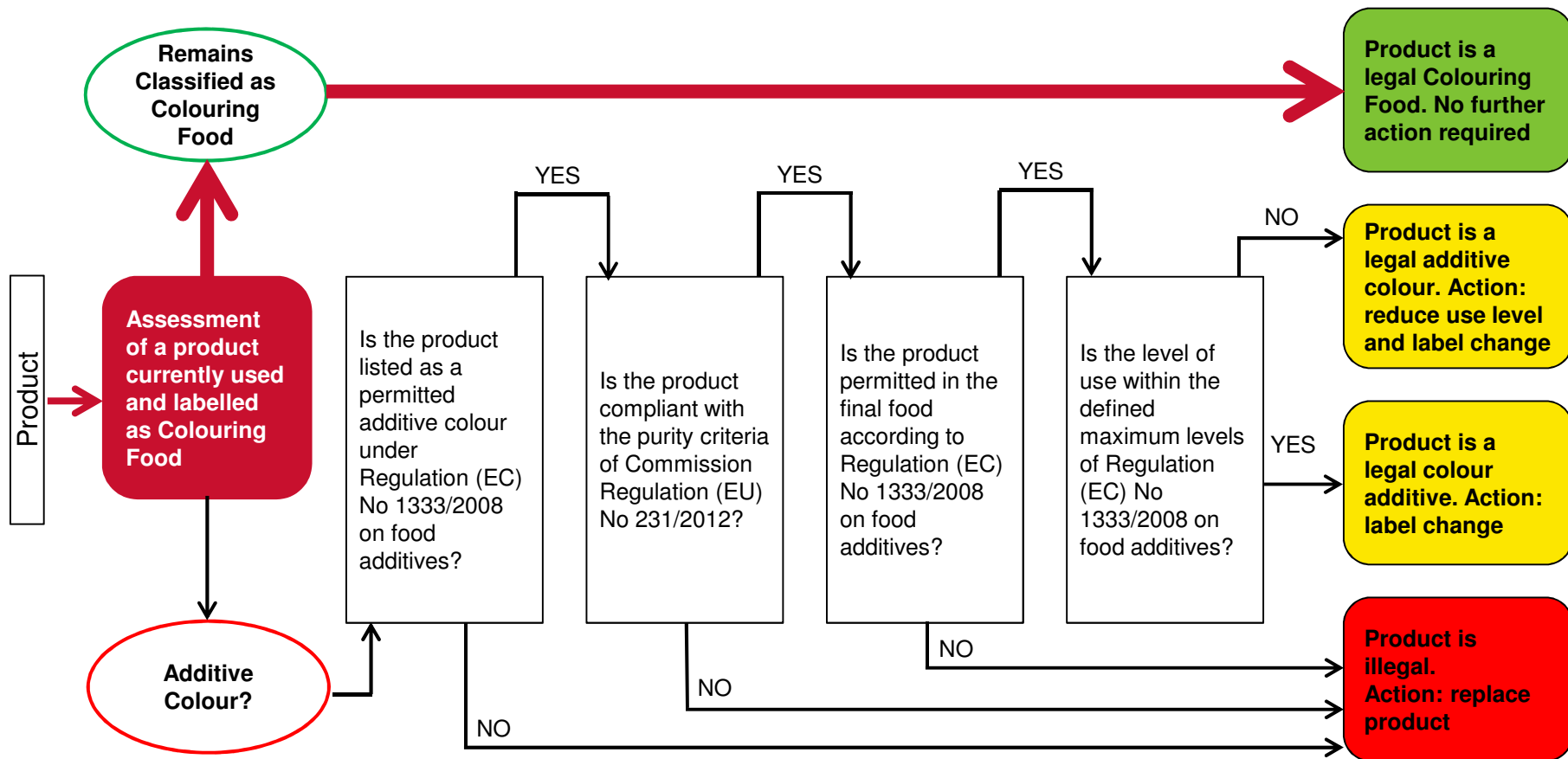
Assessment based on the Guidance Notes of a colouring product currently used and labelled as Colouring Food



CONSEQUENCES AND NECESSARY ACTIONS



Assessment Example based on the Guidance Notes of the **EXBERRY® Products**



COLOURING FOODS – CLARITY AND CERTAINTY

- Colouring Foods now have a clear and defined legal status resulting in consistent interpretation throughout the EU
- EXBERRY® Colouring Foods comply with the Guidance Notes
- Colouring products not complying with the Guidance Notes will not be classified as Colouring Foods (example in Annex IV of carrot root extract B classified as a non-permitted additive colour)
- From 1st January 2014 the Guidance Notes apply, any colouring product placed on the market after 29th November 2015 has to be in line with the Guidance Notes
- Due to the defined criteria for Colouring Foods, food manufacturers now have certainty for the legal status of Colouring Foods in their products
- Food retailers can be certain that their finished products containing Colouring Foods are complying with the Guidance Notes and meeting consumers expectations
- Consumer demand for 'natural colour' can be perfectly met with Colouring Foods (complying with the Guidance Notes)





Thanks for your attention!

Contact

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