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Risk assessment of Food Additives in Europe

Martin Rose

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Risk assessment (RA) and Risk management (RM)

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- RA is independent scientific advice on potential threats to the food chain
- RM uses this advice as a basis for decision making to address these issues
- Separated for over a decade at European level, but not necessarily at a National level in all Member States (MSs)

European Food Safety Authority

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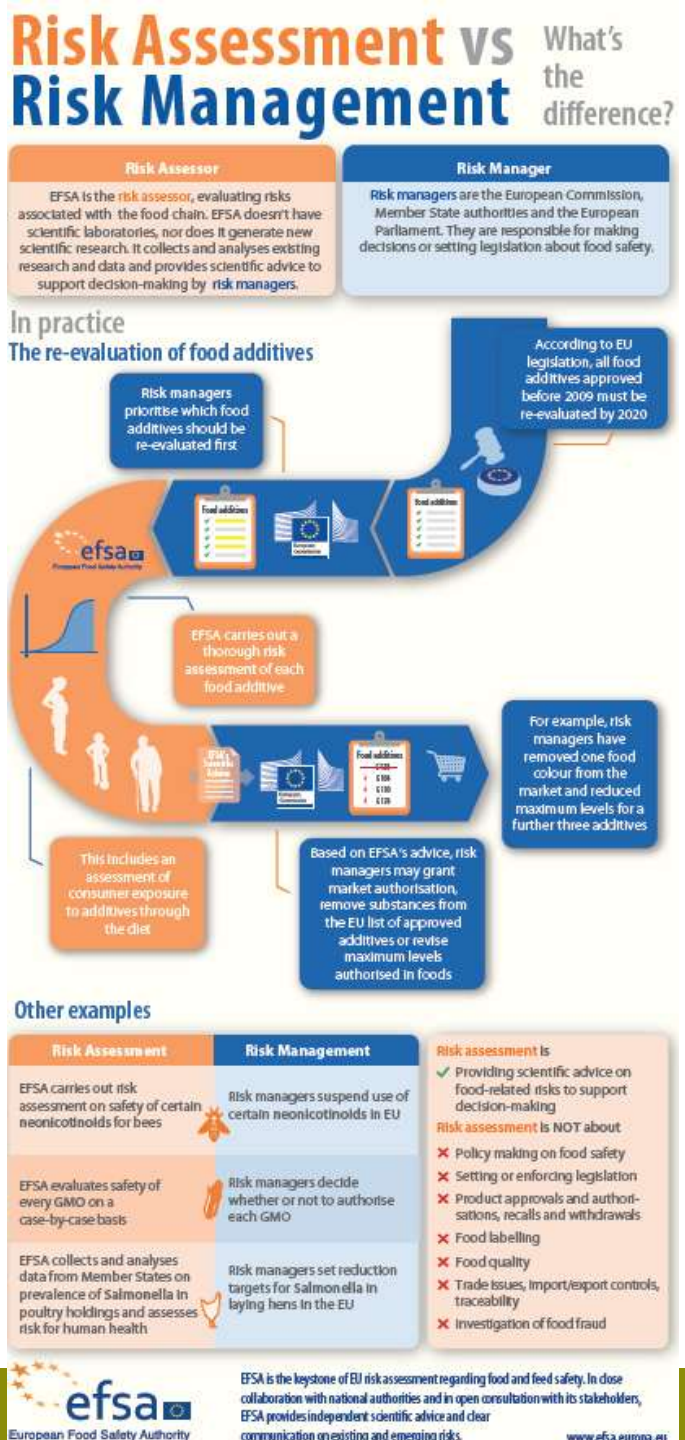
- EFSA is responsible for scientific risk assessment of food in Europe

- DG SANCO is responsible for risk management (setting limits, authorisations, incident response etc)



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Risk assessment

- hazard identification
- hazard characterization
- exposure assessment
- risk characterization

– FAO/WHO consultation on risk analysis

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Panels & Units

Risk assessment and scientific assistance

- Animal health and welfare (AHAW Panel)
- Biological hazards (BIOHAZ Panel)
- Biological monitoring (BIOCONTAM Unit, DATA Unit)
- Contaminants (CONTAM Panel)
- Dietary and chemical monitoring (DATA Unit)
- Plant health (PLH Panel)
- Assessment and methodological support (AMU Unit)

Scientific evaluation of regulated products

- Feed (FEEDAP Panel)
- Nutrition (NDA Panel)
- Food ingredients and packaging (ANS Panel, CEF Panel)
- GMO (GMO Panel)
- Pesticides (PPR Panel)

Science strategy and coordination

- Advisory Forum and scientific cooperation (AFSCO Unit)
- Scientific Committee & Emerging Risks (Scientific Committee)

The Panel on Food Additives and Nutrient Sources Added to Food (ANS) deals with questions of safety in the use of food additives, nutrient sources and other substances deliberately added to food, excluding flavourings and enzymes

The Panel on Food Contact Materials, Enzymes, Flavourings and Processing Aids (CEF) deals with questions on the safety of use of materials in contact with food, enzymes, flavourings and processing aids

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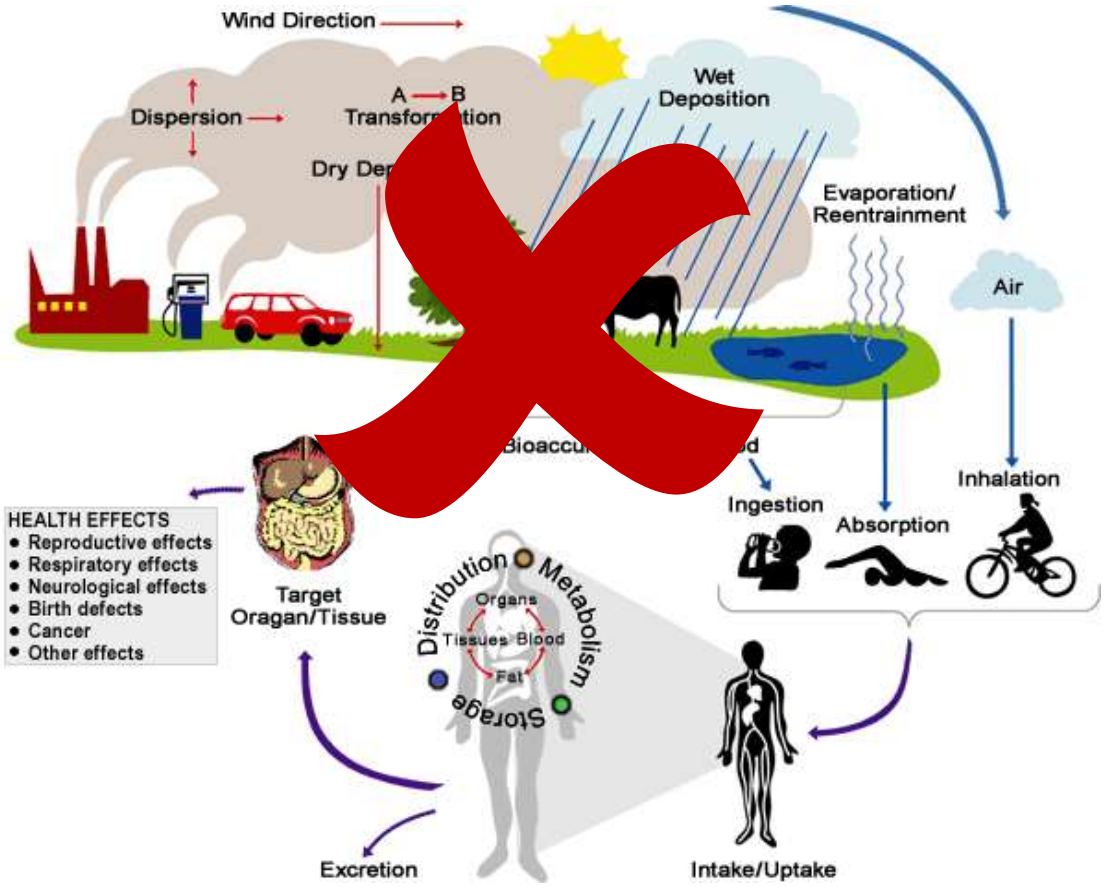
Environment

- Environmental RA not considered



Assessment of safety of food additives

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Guidance on food additive submissions

- Established in 2001 by the former Scientific Committee on Food (SCF)
- Statement on data requirements for evaluation of food additive applications adopted by ANS Panel in July 2009
- New guidance for submission of food additive evaluations adopted by ANS Panel in June 2012

EFSA Journal 2012;10(7):2760

SCIENTIFIC OPINION

Guidance for submission for food additive evaluations[1]

EFSA Panel on Food Additives and Nutrient Sources added to Food (ANS)[2, 3]

European Food Safety Authority (EFSA), Parma, Italy

This Scientific Opinion, published on 16 August 2012, replaces the earlier version published on 18 July 2012.[4]

ABSTRACT

This guidance document refers to the applications for authorisation of a new food additive or to a modification of an already authorised food additive, combining in a single document the description of the data requirements and their context, and also a description of the risk assessment paradigm applied. The document is arranged in four main sections: chemistry and specifications, existing authorisations and evaluations, proposed uses and exposure assessment, and toxicological studies. Assessment of the exposure to food additives is based on information on known or anticipated human exposure to the proposed additive or toxicologically relevant components of the additive from food, and any other potential dietary sources. For the toxicological studies, this guidance describes a tiered approach which balances data requirements against the risk, taking into consideration animal welfare by adopting animal testing strategies in line with the 3-Rs (replacement, refinement, reduction). This tiered approach for toxicological studies consists of 3 tiers, for which the testing requirements, key issues and triggers are described. According to this tiered approach, a minimal dataset applicable to all compounds has been developed under Tier 1, while Tier 2 testing, generating more extensive

Differences between 2001 SCF and 2012 EFSA guidance

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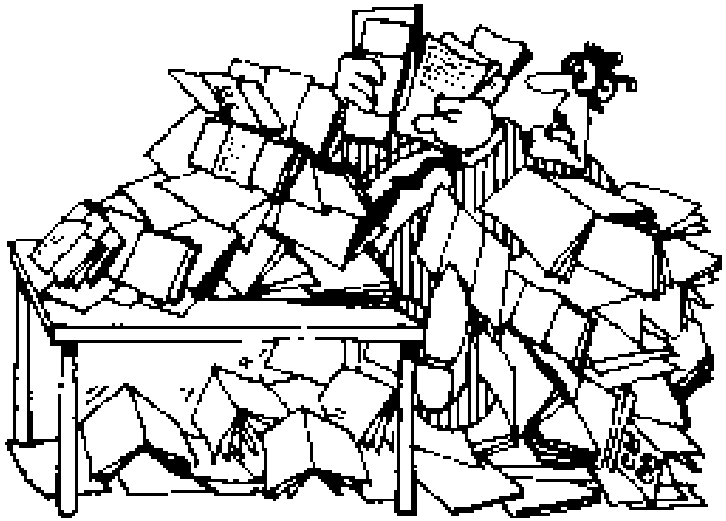
- Scientific Committee for Food (SCF) - core and supplementary toxicological studies
- Revised guidance describes a tiered approach
- Uses risk assessment procedures approved by EFSA's Scientific Committee
- Requires documentation of the literature search strategy used to gather data



4 sections to RA

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- The risk assessment process comprises four steps; hazard identification, hazard characterisation, exposure assessment and risk characterisation. In carrying out its risk assessments, EFSA seeks to define a health-based guidance value e.g. an Acceptable Daily Intake (ADI) (IPCS, 2004) applicable to the general population
- Chemistry and specifications
- Existing authorisations and evaluation
- Proposed uses and exposure assessment
- Toxicological studies

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Acceptable Daily Intake (ADI)

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- ADI for compounds where mechanism of toxicity can either be demonstrated or reasonably expected based on the available data.
  - does not apply to infants below 12 weeks (JECFA, 1978; SCF, 1998)
  - use of food additives for infant formula represents a special case
- Group ADIs may be set where there is a common mode of action.
- Temporary ADIs not usually used – but may apply during re-evaluations which identify the need for additional data
- For additives that are neither genotoxic nor genotoxic and carcinogenic, consider a Margin of Safety (MOS) approach

Tiered approach

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- Balances data requirements against the risk
- Takes into account other factors such as use of animals and animal welfare
- Initially uses less complex tests to obtain hazard data
- If not sufficient, these are used to design studies at higher tiers
- In line with 3 Rs principle

Reduction - To minimize number of animals used

Replacement - To avoid the use of living animals

Refinement - To minimize suffering and distress

TOXICOKINETIC TESTING

Tier 1: Absorption studies and *in vitro* gastrointestinal metabolism

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- establishes whether the compound or breakdown products are absorbed from the gastrointestinal tract
- required sensitivity to determine negligible absorption levels will generally necessitate *in vivo* studies using labelled compounds
- stability in the gastrointestinal tract needs to be investigated to ascertain that it neither breaks down nor is metabolised to components that may be absorbed
- take into account physicochemical (chemical structure, molecular weight, octanol-water partition coefficient, aqueous solubility, molecular shape, charge and dissociation constants), study design (percentage of absorption, robustness of study design and performance, sensitivity and specificity of methods of detection, detection limits, amount in faeces and dose accountancy) and other parameters (likelihood of persistence in tissues, predicted metabolic stability)

In case of absorption, go to Tier 2 toxicokinetic testing

Tier 2: Studies to define distribution, metabolism and excretion and other basic toxicokinetic parameters following a single dose

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- *In vivo* assessment of ADME (absorption, distribution, metabolism and excretion)
- provide data on systemic exposure to the compound and definition of basic single dose toxicokinetic parameters ($T_{1/2}$, AUC, bioavailability, C_{max} and T_{max})
- Consider metabolites
- animal model might require comparative *in vitro* metabolism studies using corresponding animal and human enzymes, subcellular fractions and/or cells

Tier 3: Studies to define toxicokinetic parameters following repeated administration

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- In cases where limited or slow excretion indicates possible bioaccumulation
- Tier 3 toxicokinetic studies with repeated doses in experimental animals, normally this would involve studies to steady-state; approximately five terminal half lives
- Additional data to help predict the absorption, distribution, metabolism and excretion in humans
- Human kinetic data from volunteer studies; case-by-case basis

GENOTOXICITY TESTING

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- identify substances which could cause heritable damage in humans,
- predict potential genotoxic carcinogens in cases where carcinogenicity data are not available,
- contribute to understanding of the mechanism of action of chemical carcinogens.

Tier 1: Basic test battery

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- bacterial reverse mutation assay (OECD TG 471),
- *in vitro* mammalian cell micronucleus test (OECD TG 487).

Tier 2: Follow-up of results from the basic test battery

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suitable in vivo tests:

- *in vivo* micronucleus test (OECD TG 474),
- *in vivo* Comet assay (internationally agreed protocols available),
- transgenic rodent assay (OECD TG 488).

There is no Tier 3 for genotoxicity testing.

TOXICITY TESTING
(SUBCHRONIC, CHRONIC AND CARCINOGENICITY)

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- provides information on treatment related changes in blood, urine and clinical biochemistry parameters, gross and histopathological changes in organs and tissues following prolonged exposure to the additive via an appropriate oral route.
- clinical observations may also provide information on neurofunctional and neurobehavioral effects of the additive under investigation

Tier 1:

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- modified 90-day toxicity test (OECD TG 408 with extended parameters from the OECD 407)
- Identifies chemicals with the potential to cause neurotoxic, immunological or reproductive organ effects or endocrine-mediated effects
- looks for pathological and physiological effects in the gastrointestinal tract

Tier 2:

- chronic toxicity (12 months) and carcinogenicity in a single species
- separate studies (OECD TGs 452 and 451, respectively) or combined study (OECD TG 453)

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Tier 3:

- several alternative models
- Transgenic mouse models (p53+/-, rasH2, Tg.AC, Xpa-/- and Xpa-/-p53+/-)
- transgenic mouse models (not a complete replacement to the rodent 2-year cancer bioassay

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY

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- male and female libido,
- fertility,
- female's ability to carry pregnancy to term,
- maternal lactation and care of the young,
- prenatal and postnatal survival,
- growth,
- functional and behavioural development of the offspring,
- reproductive capacity of the offspring
- identify histologically any major target organs for toxicity in the parents and offspring.

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Tier 1:

- repeated dose 90-day oral toxicity study (OECD TG 408); does not assess fertility and the whole reproductive cycle from in utero exposure onwards, through sexual maturity to conception, gestation, prenatal and postnatal development

Where absorption is negligible, Tier 2 testing for reproductive and developmental toxicity studies need not be performed

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Tier 2:

- prenatal developmental toxicity study (OECD TG 414) in the rabbit and
- an Extended One-Generation Reproduction Toxicity Study (EOGRTS) (OECD TG 443)

Tier 3:

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- case-by-case approach should be adopted with careful consideration given to animal welfare issues and on all available data
- might comprise of additional studies for e.g. endocrine, developmental neurotoxicity (OECD TG 426)

OTHER

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- Human studies (absorption, metabolism, distribution and elimination studies, and tolerance studies); can include allergy, behaviour or cognitive function
- Immunotoxicity,
- Hypersensitivity/allergy
- Food Intolerance

Exposure to food additives

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- 3 Tiers
- Tier 1: Crude estimates - Budget method
- Tier 2: Uses data on actual food consumption combined with maximum intended use levels of the food additive
- Tier 3: Actual food consumption combined with normal use levels of the food additive (highest normal use level reported by industry or from post-marketing surveillance)

Food Additive Intake Model (FAIM)

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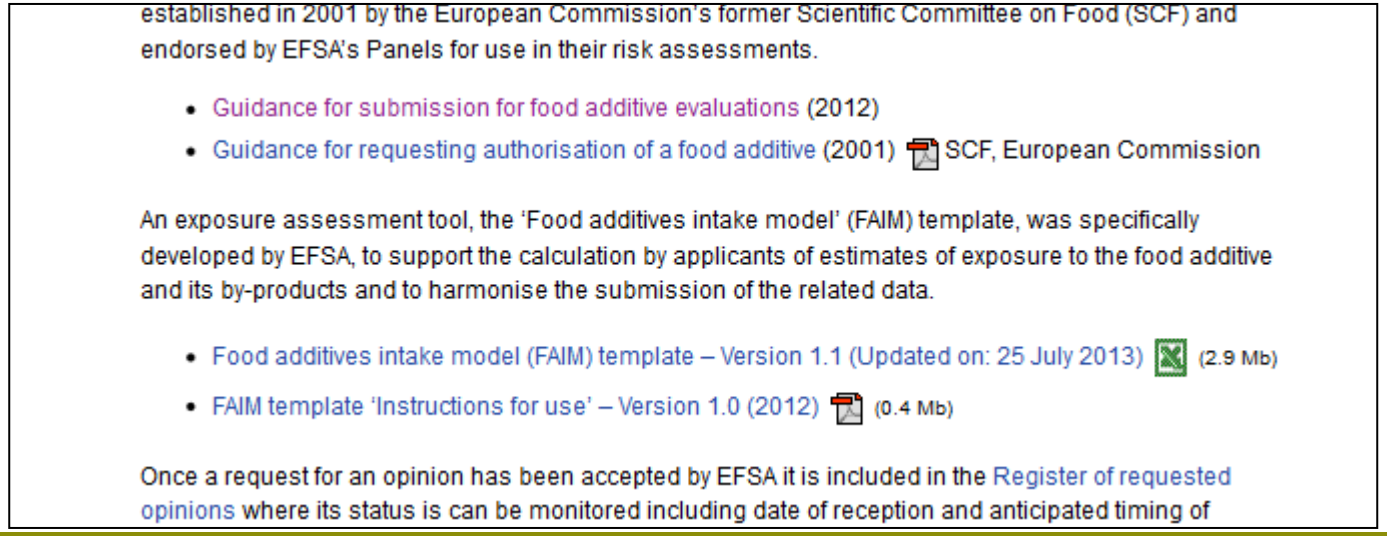
- Scientific exposure assessment tool
- Uses the EFSA Comprehensive Food Consumption Database (EFSA, 2011)
- Available to public on EFSA website:

http://www.efsa.europa.eu/en/topics/topic/additives



established in 2001 by the European Commission's former Scientific Committee on Food (SCF) and endorsed by EFSA's Panels for use in their risk assessments.

- Guidance for submission for food additive evaluations (2012)
- Guidance for requesting authorisation of a food additive (2001) SCF, European Commission

An exposure assessment tool, the 'Food additives intake model' (FAIM) template, was specifically developed by EFSA, to support the calculation by applicants of estimates of exposure to the food additive and its by-products and to harmonise the submission of the related data.

- Food additives intake model (FAIM) template – Version 1.1 (Updated on: 25 July 2013) (2.9 Mb)
- FAIM template 'Instructions for use' – Version 1.0 (2012) (0.4 Mb)

Once a request for an opinion has been accepted by EFSA it is included in the Register of requested opinions where its status is can be monitored including date of reception and anticipated timing of

FAIM (2)

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- Scenario 1: provides exposure estimates for new additives based on proposed use levels
- Scenario 2: for a modification of an existing authorisation

Food Additives Intake Model (FAIM) - Version 1.0 - September 2012

Important : Read the instructions before using this file

The dietary surveys included in this template are detailed here

	Links to the different sheets	
Nomenclature used in the FAIM template	Nomenclature	... summarises the two levels of the food nomenclature used in the FAIM model
List of the foods under food categories	Foods list	... corresponds to the list of foods included in each food category of the nomenclature
number of consumers in surveys per age class and food category	Nb of consumers	... indicates the number of consumers in each surveys, per age class and food category
MPLs and reported use levels	Concentration values	In this sheet, you are allowed to enter the values for MPLs and/or use levels in order to run the calculations. The unit of each value must be in mg/kg foods
Estimated exposure	Toddlers Children Adolescents Adults The elderly	One sheet per age class where the detailed dietary exposure is calculated with MPLs and/or proposed use levels, per food category and per survey, according to the detailed food consumption data. The total exposure (mean and high level) is also calculated.
Summarised exposure	Summary per age class & per surveys	... summarises the total exposure (mean and high level) calculated in the previous sheets
	Summary per age class	... summarises the range of the total exposure (mean and high level) per age class calculated with MPLs and/or proposed use levels
	Summary % ADI per age class	... summarises the range of the total exposure in % of the ADI (mean and high level) per age class calculated with MPLs and/or proposed use levels
Main food contribution (≥ 5% to the total exposure)	Main food contribution	... corresponds to the food categories which contribute to higher than 5% of the total exposure for MPLs and/or proposed use levels, for each age class and the number of surveys that are higher than 5% for each major contributor.
Annexes: contribution per age class	Toddlers_contrib_all Children_contrib_all Adolescents_contrib_all Adults_contrib_all The elderly_contrib_all	One sheet per age class where the food categories which contribute to the total exposure for MPLs and/or proposed use levels.

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FAIM tool used for:

Chronic exposure estimate for food additives

- Authorised food additives
  - ❖ Re-evaluation
  - ❖ New uses
- New applications

FAIM: food consumption data

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- Comprehensive database
- Link between FoodEx1 level 1-4 and Food Classification System (FCS) [Reg (EC) 1129/2011]
- Food Lists
- Derive consumptions levels (mean and ‘high level’ per FCS category
- Tier 2

Food Groups and concentrations

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20 main food groups

65 sub-groups

MPL

Use levels

Name of the substance	xxx	Levels in beverages and foods	
ADI (mg/kg bw/day)	y		
FCS name Level 1	FCS name Level 2	MPL	Use levels
		mg/kg - mg/L*	mg/kg - mg/L*
1 - Dairy products and analogues	1.1 - Unflavoured pasteurised and sterilised (including UHT) milk		
1 - Dairy products and analogues	1.23 - Unflavoured fermented milk products, including natural unflavoured buttermilk (excluding sterilised buttermilk)		
1 - Dairy products and analogues	1.4 - Flavoured fermented milk products including heat treated products		
1 - Dairy products and analogues	1.5 - Dehydrated milk as defined by Directive 2001/114/EC		
1 - Dairy products and analogues	1.6 - Cream		
1 - Dairy products and analogues	1.7.1 - Unripened cheese (excl cat 16)		
1 - Dairy products and analogues	1.7.2 - Ripened cheese		
1 - Dairy products and analogues	1.7.4 - Whey cheese		
1 - Dairy products and analogues	1.7.5 - Processed cheese		
1 - Dairy products and analogues	1.8 - Dairy analogues, including beverage whiteners		
2 - Fats and oils, and fat emulsions	2.1 - Fats and oils essentially free from water (excluding anhydrous milkfat)		
2 - Fats and oils, and fat emulsions	2.2 - Fat and oil emulsions mainly of type water-in-oil		
3 - Edible ices	3 - Edible ices		
4 - Fruit and vegetables	4.1 - Unprocessed fruit and vegetables		
4 - Fruit and vegetables	4.2 - Processed fruit and vegetables		
5.1 - Cocoa and Chocolate products as covered by Directive 2000/36/EC	5.1 - Cocoa and Chocolate products as covered by Directive 2000/36/EC		
5.2 - Other confectionery including breath refreshening microsweets	5.2.1 - Other confectionery with added sugar		
5.2 - Other confectionery including breath refreshening microsweets	5.2.2 - Other confectionery without added sugar		
5.3 - Chewing gum	5.3.1 - Chewing gum with added sugar		
5.3 - Chewing gum	5.3.2 - Chewing gum without added sugar		
6 - Cereals and cereal products	6.1 - Whole, broken, or flaked grain		
6 - Cereals and cereal products	6.2 - Flours and starches		

Food consumption data

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26 surveys; 17 EU countries 5 age groups

Country	Name of the dietary survey (Acronym)	Survey period	Geographical level	Age range (years old)	Number of subjects
Belgium	Regional Flanders	2002 – 03	Regional	2.5 to 6.5	661
	Diet National 2004	2004 – 05	National	> 15	3,245
Bulgaria	NUTRICHILD	2007	National	< 5	1,723
Cyprus	Childhealth	2003	National	11 to 18	303
Czech Republic	SISP04	2003 – 04	National	> 4	1,751
Denmark	Danish Dietary Survey	2000 – 02	National	4 to 75	4,118
Finland	FINDIET 2007	2007	National	25 to 74	2,038
	DIPP	2003 – 06	Regional	1, 3 and 6	1,448
	STRIP	2000	Regional	7 to 8	250
France	INCA2	2005 – 07	National	3 to79	4,079
Germany	DONALD	2006 – 08	Regional	1 to 10	926
	National Nutrition Survey II	2005 – 07	National	14 to 80	13,926
Greece	Regional Crete	2004 – 05	Regional	4 to 6	874
Hungary	National Repr Surv	2003	National	> 18	1,360
Ireland	NSIFCS	1997 – 99	National	18 to 64	958
Italy	INRAN-SCAI 2005–06	2005 – 06	National	> 0.1	3,323
Latvia	EFSA_TEST	2008	National	7 to 66	2,070
The Netherlands	VCP_Kids	2005 – 06	National	2 to 6	750
	DNFCS-2003	2003	National	19 to 30	1,279
Spain	enKid	1998 – 00	National	1 to 14	382
	NUT-INK05	2004 – 05	Regional	4 to 18	1,050
	AESAN	1999 – 2001	National	17 to 60	1,068
	AESAN-FIAB	2009	National	18 to 60	418

Homepage | Instructions for use | **Dietary surveys** | Nomenclature | Foods list | Nb of consumers | Conc

Results output from FAIM (2)

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Mean exposure

High exposure (P95)

A	B	C	D	E
Back to homepage	XXX			
	SUMMARY per AGE CLASS and SURVEY (mg/kg bw/day)			
	MPL		Use levels	
	Mean	High level	Mean	High level
Toddlers				
Bulgaria (Nutrichild)	0.0	0.0	0.0	0.0
Finland (DIPP)	0.0	0.0	0.0	0.0
Germany (Donald 2006_2008)	0.0	0.0	0.0	0.0
The Netherlands (VCP_Kids)	0.0	0.0	0.0	0.0
Children				
Belgium (Regional_Flanders)	0.0	0.0	0.0	0.0
Bulgaria (Nutrichild)	0.0	0.0	0.0	0.0
Czech Republic (SISP04)	0.0	0.0	0.0	0.0
Denmark (Danish Dietary Survey)	0.0	0.0	0.0	0.0
Finland (DIPP)	0.0	0.0	0.0	0.0
Finland (STRIP)	0.0	0.0	0.0	0.0
France (INCA 2)	0.0	0.0	0.0	0.0
Germany (Donald 2006_2008)	0.0	0.0	0.0	0.0
Greece (Regional_Crete)	0.0	0.0	0.0	0.0
Italy (INRAN_SCAI_2005_06)	0.0	0.0	0.0	0.0
Latvia (EFSA_TEST)	0.0	0.0	0.0	0.0
The Netherlands (VCP_Kids)	0.0	0.0	0.0	0.0
Spain (enKid)	0.0	0.0	0.0	0.0
Spain (Nut_Ink05)	0.0	0.0	0.0	0.0
Sweden (NFA)	0.0	0.0	0.0	0.0
Adolescents				
Belgium (Diet_National_2004)	0.0	0.0	0.0	0.0
Cyprus (Childhealth)	0.0	0.0	0.0	0.0
Czech Republic (SISP04)	0.0	0.0	0.0	0.0
Denmark (Danish Dietary Survey)	0.0	0.0	0.0	0.0
France (INCA 2)	0.0	0.0	0.0	0.0
Germany (National_Nutrition_Survey_II)	0.0	0.0	0.0	0.0
Italy (INRAN_SCAI_2005_06)	0.0	0.0	0.0	0.0
Latvia (EFSA_TEST)	0.0	0.0	0.0	0.0
Spain (AESAN_FIAB)	0.0	0.0	0.0	0.0

Results output from FAIM

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Food groups contributing most (> 5%) to the total mean intake

Age class	substance	Bulgaria (Nutrichild)		Finland (DIPP)		Germany (Donald 2006_2008)		The Netherlands (VCP_Kids)			
Toddlers	xxx	MPL	Use level	MPL	Use level	MPL	Use level	MPL	Use level	MPL	Use levels
FCS name Level 1	FCS name Level 2	% of the total exposure	% of the total exposure	% of the total exposure	% of the total exposure	% of the total exposure	% of the total exposure	% of the total exposure	% of the total exposure	Number of countries per category >=5%	Number of countries per category >=5%
1 - Dairy products and analogues	1.1 - Unflavoured pasteurised and sterilised (including UHT) milk	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.23 - Unflavoured fermented milk products, including natural unflavoured buttermilk (excluding sterilised buttermilk)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.4 - Flavoured fermented milk products including heat treated products	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.5 - Dehydrated milk as defined by Directive 2001/114/EC	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.6 - Cream	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.7.1 - Unripened cheese (excl cat 16)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.7.2 - Ripened cheese	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.7.4 - Whey cheese	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.7.5 - Processed cheese	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
1 - Dairy products and analogues	1.8 - Dairy analogues, including beverage whiteners	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
2 - Fats and oils, and fat emulsions	2.1 - Fats and oils essentially free from water (excluding anhydrous milkfat)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
2 - Fats and oils, and fat emulsions	2.2 - Fat and oil emulsions mainly of type water-in-oil	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
3 - Edible ices	3 - Edible ices	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
4 - Fruit and vegetables	4.1 - Unprocessed fruit and vegetables	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
4 - Fruit and vegetables	4.2 - Processed fruit and vegetables	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
5.1 - Cocoa and Chocolate products as covered by Directive 2000/36/EC	5.1 - Cocoa and Chocolate products as covered by Directive 2000/36/EC	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0
5.2 - Other confectionery including breath refreshening microsweets	5.2.1 - Other confectionery with added sugar	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0

Results output from FAIM (3)

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Back to homepage	A1							
	TOTAL ESTIMATED EXPOSURE: % OF THE ADI							
	MPL				Use levels			
	Range for mean across dietary surveys		Range for high level across dietary surveys		Range for mean across dietary surveys		Range for high level across dietary surveys	
	Min	Max	Min	Max	Min	Max	Min	Max
Toddlers	18.0	82.8	67.2	161.4	12.5	56.1	47.4	111.6
Children	25.7	85.2	50.0	154.5	16.0	55.3	32.7	104.2
Adolescents	12.8	40.9	29.9	70.3	8.2	25.5	19.9	42.8
Adults	5.9	30.1	19.8	56.0	3.8	18.4	11.8	35.0
The elderly	2.1	15.4	12.2	39.0	1.4	8.3	8.5	22.7

Re-evaluation of authorised food additives

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Triggers:

- Potential exceedance of ADI
- Questions about quality of data used in original evaluation
- Availability of new data that does not confirm the previous data

Regulation (EU)257/2010 sets up a programme for a review of all authorised food additives

Review of all authorised food additives

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3 objectives:

- Re-evaluate in accordance with Commission Regulation (EU) No 257/2010
- Re-evaluate per group according to the main functional class to which they belong
- Follow current risk assessment best practice

7 step procedure and criteria for scheduling

Re-evaluation of food additives

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State of the art

- The scenario foreseen by Regulation (EC) No 257/2010 is demanding:

Re-evaluation finalized by 2020 as follows

- Food colours 2015
- FA other than food colours & sweeteners 2015, 2016 & 2018
- Sweeteners 2020
  - Priority criteria

Last evaluation, new scientific evidence, increased human exposure, EC request, emerging concern

Strategy for re-evaluation

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Eight step procedure:

1. Public call for data
2. Preparation of pre-evaluation documents
3. Appointment of rapporteur
4. Preparation of draft opinion
5. Discussion at working group
6. Specific call for additional data when needed
7. Preparation of final opinion
8. Adoption of opinion

Challenges

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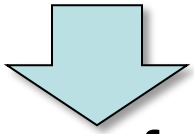
- the huge variability of available data
- need to request additional data
- often *limited* response to public data calls



- Long lasting process for proper evaluation of FA
- Reduced number of adoptions per year

‘Standard’ approach

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Backward process	Tentative Timelines months	*e.g. FA to be approved* ***Dec 2015***
- adoption of the opinion	0	*Dec 2015*
- Panel involvement, discussion of DO	-2/4	*Nov 2015*
- additional call for data (as needed)	-8/10	*July 2015*
- WG involvement (Rapporteur)/Draft Opinion	-12	*Dec 2014*
- data availability	-12	*4Q2014*
- pre-evaluation documents availability	-12	*4Q2014*
- public call for data	-18	*Mid 2014*
- pre-evaluation documents tender	-18/24	*1-2Q2014*

Call for FA concentration data

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- Call for food additives usage level and/or concentration data in food and beverages intended for human consumption launched in March 2013

- Deadline for submission of data :
  - 15 September 2013 (Batch 1)
  - 30 November 2013 (Batch 2)
  - *April 2014 (Batch 3)*

    - Usage data (reported use levels) were requested from the industry

    - Analytical/monitoring data were requested from relevant stakeholders (industry, MS, research institutions etc.)

Regulated food ingredient applications

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- food additives, food enzymes, flavourings, smoke flavourings and sources of vitamins and minerals added to food

Food additives, food enzymes and flavourings

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- Application procedure set down in Regulation EC 1331/2008; administrative and technical requirements in Commission Regulation EU 234/2011.
- Applications are submitted to the European Commission

Content of application ‘dossier’

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- an accompanying letter;
- a technical dossier;
- a summary of the dossier;
- a public summary of the dossier;
- a separate copy of administrative data of applicant(s) from technical dossier
- a checklist;
- 2x CD/DVD containing copies of all documents mentioned above in electronic format.

If some parts are confidential:

- a list of parts of the dossier requested to be treated as confidential;
- a verifiable justification for each part for which a confidential treatment is required;
- a complete dossier without confidential parts;
- 2x complete dossiers without confidential parts in electronic format (CD/DVD).

Technical dossier

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- administrative data (Article 4 of Regulation (EU) No 234/2011),
- data required for risk assessment (Article 5 and Article 6 for Food additives)
- data required for risk management
  - *Food additives applications* - Article 7 of Regulation (EU) No 234/2011
  - *Food enzymes applications* - Article 9 of Regulation (EU) No 234/2011
  - *Food flavourings applications* - Article 11 of Regulation (EU) No 234/2011.

Risk assessment information required for FAs

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Identity and characterisation of the additive, including the proposed specifications and analytical data
Information on particle size, particle size distribution and other physicochemical characteristics
Manufacturing process - 2 versions to be submitted: A. Detailed description of man. process B. Concise description of man. process
Presence of impurities
Stability, reaction and fate in foods to which the additive is added
Existing authorisations and risk assessments
Proposed normal and maximum use levels in the food categories mentioned in Annex II to Regulation (EC) No 1333/2008, or in a newly proposed food category, or in a more specific foodstuff belonging to one of these categories
Dietary exposure assessment and data on dietary sources

Biological and toxicological data
Toxicokinetics
Subchronic toxicity
Genotoxicity
Chronic toxicity and carcinogenicity
Reproductive and developmental toxicity
Overall conclusion on the safety of the proposed uses
Documentation on the procedure followed when gathering the data
Safety evaluation strategy and corresponding testing strategy
Relevant published paper and unpublished studies including the individual raw data

Risk management information required for FAs

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Identity of the food additive, including reference to the existing specifications
Function and technological need for the level proposed in each food category for which authorisation is requested and an explanation why this can not be reasonably achieved by other economically and technologically practical means
Investigations on the efficacy of the food additive for the intended effect at the use level proposed
Advantages and benefits for the consumer according to the requirements laid down in Article 6 (2) of Regulation (EC) No 1333/2008
Information why the use would not mislead the consumer
Proposed normal and maximum use levels in the food categories mentioned in Annex II to Regulation (EC) No 1333/2008, or in a newly proposed food category, or in a more specific foodstuff belonging to one of these categories
Exposure assessment based on normal and maximum use levels for each of the categories or products concerned
Amount of the food additive present in the final food as consumed by the consumer
Analytical methods allowing the identification and quantification of the additive or its residues in food
Compliance with specific conditions for sweeteners as laid down in Article 7 of Regulation (EC) No 1333/2008
Compliance with specific conditions for colours as laid down in Article 8 of Regulation (EC) No 1333/2008

Workflow

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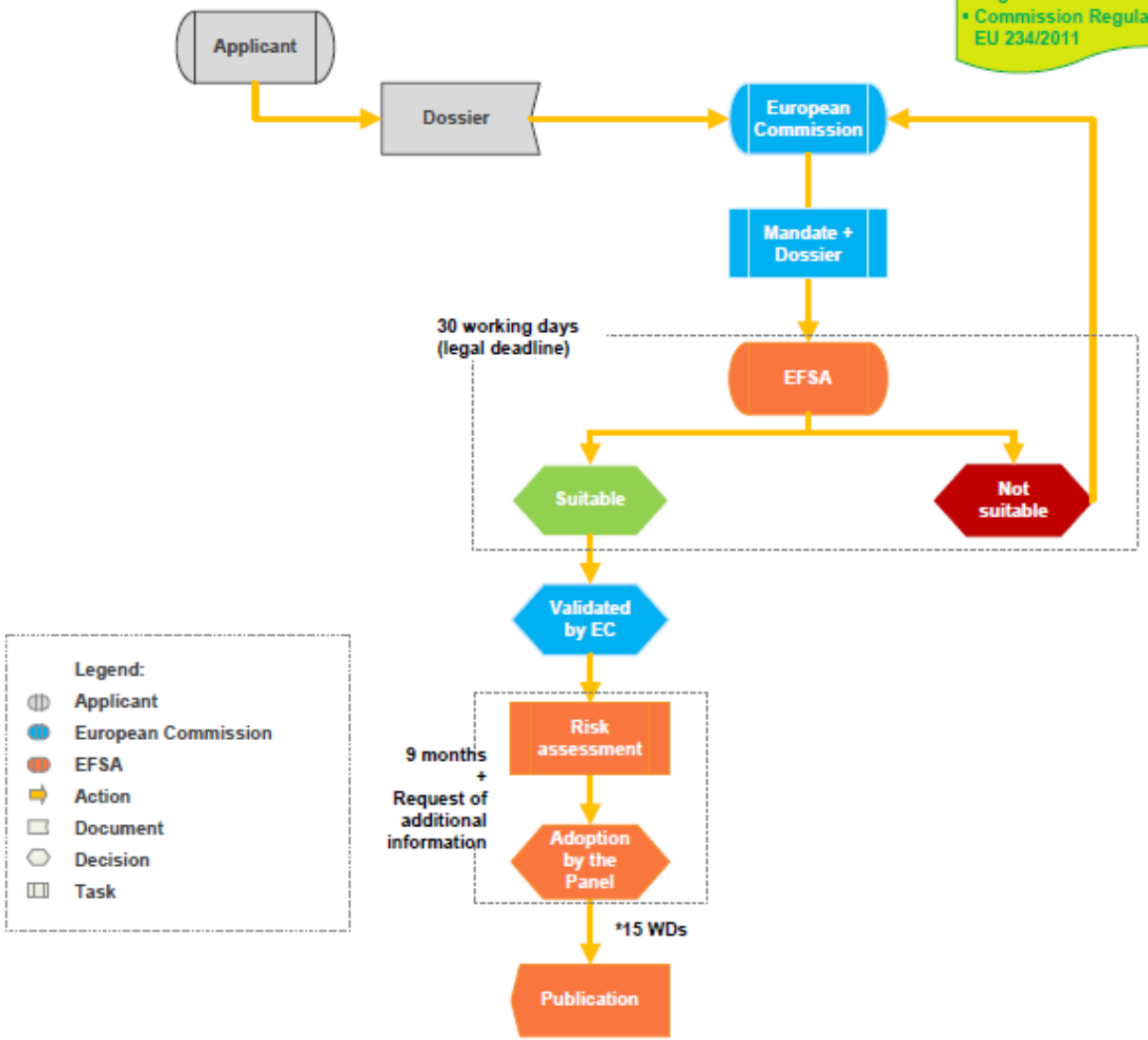
- Regulation EC 1331/2008
- Commission Regulation EU 234/2011



FAQs – answers on EFSA website

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- I have submitted a regulated food ingredient application for safety evaluation by EFSA. How can I check the status of my application?
- I am not sure if my substance requires authorisation. Who should I contact?
- Is there an official list of all authorised regulated food ingredients?
- What is EFSA's role with regard to processing aids in the European Union?
- I am a new applicant. How do I prepare an application?
- What happens to my application when EFSA has received it?
- How long does EFSA's evaluation take?
- Do I need to pay?
- Does EFSA authorise regulated food ingredients?

Thank you for your attention

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