



# 台灣加工助劑的管理規範

## Measures on processing aid substances: Taiwan perspective

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# Presentation Overview

- Background
- Regulation in Taiwan
- Sanitation Standard for Processing Aids
- Future Work

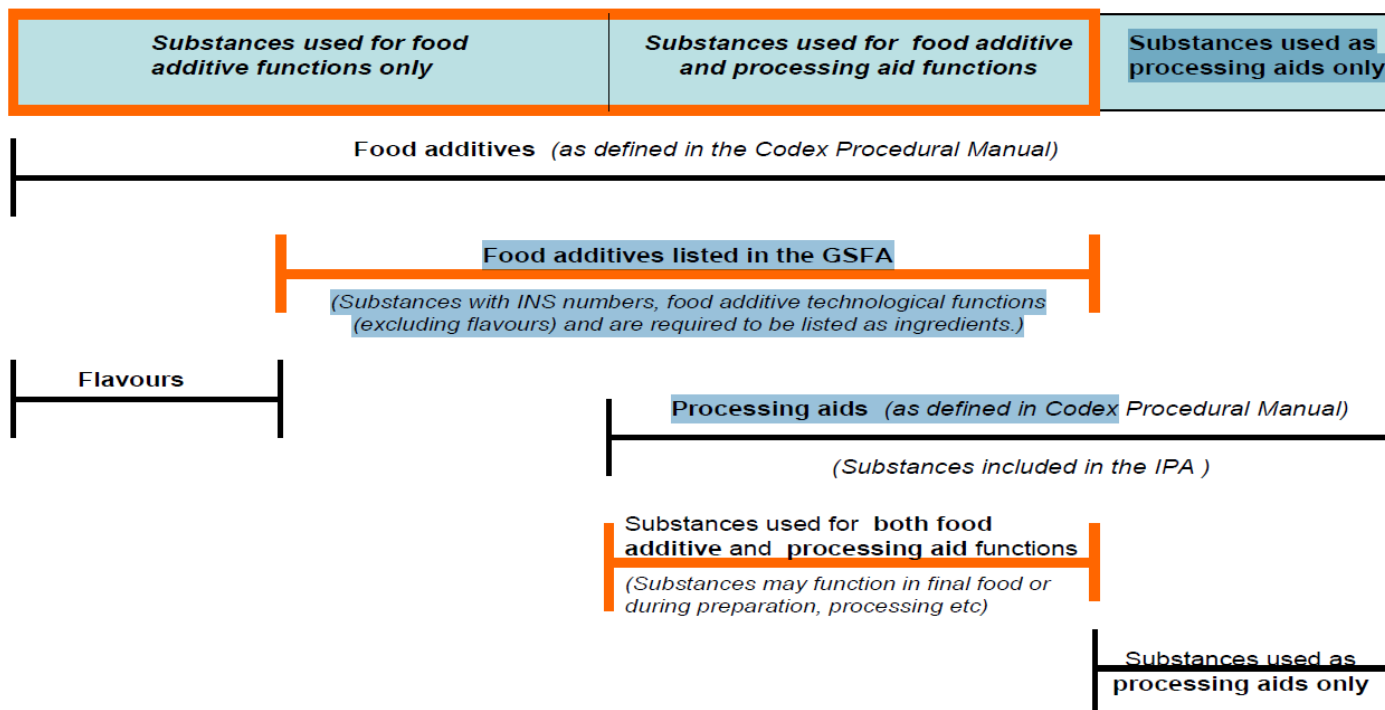


# Background

- Differences between food additives and processing aids

## Relationship between Food Additives and Processing Aids

(Not to scale)





# Regulation in Taiwan

- Act Governing Food Safety and Sanitation
  - Article 3 Definition of food additives
  - Article 17 Sanitation Standards
  - Article 18 The name, specification, use-scopes and limitation of food additives



A collage of various fresh foods including green beans, tomatoes, red apples, red grapes, a slice of Swiss cheese, a potato, and a loaf of bread.

# Definition of Food Additives

- Article 3 of Act Governing Food Safety and Sanitation
  - The term "food additives" shall mean a single substance or combination of substances that are added to or brought into contact with foods for the purpose of coloring, seasoning, preserving, bleaching, emulsifying, flavoring, stabilizing quality, enhancing fermentation, increasing viscosity, enriching nutritional value, preventing oxidation or other necessary purpose.



# Regulation on Food Additives

- Article 18 of Act Governing Food Safety and Sanitation
- Standards for Specification, Scope, Application and Limitation of Food Additives

No.	Category	No.	Category
1	防腐劑 Preservatives	10	香料 Flavoring Agents
2	殺菌劑 Sanitizing Agents	11	調味劑 Seasoning Agents
3	抗氧化劑 Antioxidants	11-1	甜味劑 Sweetener
4	漂白劑 Bleaching Agents	12	粘稠劑 Pasting Agent
5	保色劑 Color Fasting Agents	13	結著劑 Coagulating Agents
6	膨脹劑 Leavening Agents	14	食品工業用化學藥品 Chemicals for Food Industry
7	品質改良用、釀造用及食品製造用劑 Food quality improvement, fermentation and food processing agents	15	溶劑 Solvents
8	營養添加劑 Nutritional Additives	16	乳化劑 Emulsifiers
9	著色劑 Colors	17	其他 Others



## 15. Solvents

Code	Food Additive Items	Scope and Application Standards	Limitations
15001	Propylene Glycol	All foods: as practically needed.	
15002	Glycerol	All foods: as practically needed.	
15003	Hexane	1.Fats, oils and sugar cane wax extraction: as practically needed, no residue in the final product. 2.Oleoresin: not more than 25 ppm. 3.Hops extract: not more than 2.2% by weight.	For cooking process.
15004	Isopropyl Alcohol (2-Propanol; Isopropanol)	1.Oleoresin : not more than 50 ppm. 2.Lemon oil: not more than 6 ppm. 3.Hops extract: not more than 2.0% by weight.	
15005	Acetone	1.Oleoresin: not more than 30 ppm. 2.Other foods: as practically needed, no residue in food.	
15006	Ethyl Acetate	Natural colorants extraction: no residue in the final product.	
15007	Triacetin (Glyceryl Triacetate)	Chewing gums: as practically needed.	





# Regulation on Processing aids

- Article 17 of Act Governing Food Safety and Sanitation
  - Foods, food cleansers, food utensils, food containers or packaging being sold shall conform to sanitation, safety and quality standards which are prescribed by the central competent authority.



# Sanitation Standard for Processing Aids

MOHW Food No. 1051300445 Announced. 02/17/2016

- Article 1
  - The Standards are prescribed in accordance with the provisions of Article 17 of the Act Governing Food Safety and Sanitation.



# Sanitation Standard for Processing Aids

- Article 2 Definition

- Processing aid means any substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients, to fulfill a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable presence of residues or derivatives in the final product. Any residues of processing aids remaining in the food after processing should not perform a technological function in the final product.



# Sanitation Standard for Processing Aids

- Article 3
  - The quantity of the substance used as processing aid shall be limited to **the lowest achievable level necessary to accomplish its desired technological purpose**. Residues or derivatives of the substance remaining in food should be reduced to the extent reasonably achievable and should not pose any health risk.



# Sanitation Standard for Processing Aids

- Article 4
  - The use of processing aids shall meet appendix 1.
- Article 5
  - The specification of processing aids shall meet appendix 2.
- Article 6
  - The Standards shall be implemented from the date of promulgation.

# Extraction Solvents

No.	Items	Application Standard
1	Propylene Glycol	All foods: as practically needed.
2	Glycerol	All foods: as practically needed.
3	Hexane	<ol style="list-style-type: none"> <li>1. Extraction of fats and oils: residue not more than 0.1 ppm.</li> <li>2. Other foods: residue not more than 20 ppm.</li> </ol>
4	Isopropyl Alcohol (2-Propanol; Isopropanol)	<ol style="list-style-type: none"> <li>1. Oleoresin: residue not more than 50 ppm.</li> <li>2. Lemon oil: residue not more than 6 ppm.</li> <li>3. Hops extract: residue not more than 2.0% by weight.</li> </ol>
5	Acetone	<ol style="list-style-type: none"> <li>1. Oleoresin: residue not more than 30 ppm.</li> <li>2. Other foods: residue not more than 0.1 ppm.</li> </ol>
6	Ethyl Acetate	All foods: residue not more than 10 ppm.
7	Triacetin (Glyceryl Triacetate)	All foods: as practically needed.

**Note: For solvent not on the list, food businesses shall submit an application to Ministry of Health and Welfare with evaluation documents including the use, specification and the international standards of the solvent.**

No.	Category	No.	Category
1	防腐劑 Preservatives	10	香料 Flavoring Agents
2	殺菌劑 Sanitizing Agents	11	調味劑 Seasoning Agents
3	抗氧化劑 Antioxidants	11-1	甜味劑 Sweetener
4	漂白劑 Bleaching Agents	12	粘稠劑 Pasting Agent
5	保色劑 Color Fasting Agents	13	結著劑 Coagulating Agents
6	膨脹劑 Leavening Agents	14	食品工業用化學藥品 Chemicals for Food Industry
7	品質改良用、釀造用及食品製造用劑 Food quality improvement, fermentation and food processing agents	15	載體 Carriers
8	營養添加劑 Nutritional Additives	16	乳化劑 Emulsifiers
9	著色劑 Colors	17	其他 Others





## 15. Carriers

Code	Food Additive Items	Scope and Application Standards	Limitations
15001	Propylene Glycol	All foods: as practically needed.	
15002	Glycerol	All foods: as practically needed.	



# Survey of processing aid use in Taiwan (1/2)

## Methodology

- Survey time: March 2016 – June 2016
- Survey method: interview in person or by phone
- Survey subjects: representatives of food manufacturer, food additive/raw material importer/manufacturer/distributor
- Survey questions included the following:
  1. A reference list of Inventory of Substances Used as Processing Aids (IPA) with 18 categories, FA/45 INF/03 was used.
  2. A compilation of processing aid substances used or encountered in the food, raw material or its ingredients were requested. Substance information in the compilation included: Chinese name, English name, application scope, use concentration, residual concentration if available, manufacture flowchart and step applied.
  3. Survey data was examined and verified by an expert committee. A preliminary use list of processing aid substances in Taiwan was then obtained.

類別項目參照國際食品添加物法典委員會(CCFA)暫存資料庫(CCFA, IPA)】  
Inventory of Substances Used as Processing Aids (IPA), FA/45 INF/03

- (1) 消泡劑 (Antifoam Agents)
- (2) 鍋爐用水添加物 (Boiler water additives)
- (3) 催化劑(Catalysts )
- (4) 澄清劑／過濾助劑(Clarifying agents/ filtration aids )
- (5) 接觸型冷凍和冷卻劑(Contact freezing & cooling agents)
- (6) 脫水劑／抗結塊劑(Desiccating agent/anticaking agents)
- (7) 清潔劑 (濕潤劑) Detergents (wetting agents)
- (8) 酵素固定劑和支持劑 (Enzyme immobilization agents & supports)
- (9) 絮凝劑(Flocculating agents )
- (10) 離子交換樹脂、濾膜、分子篩(Ion exchange resins, membranes, and molecular sieves)
- (11) 潤滑劑、脫膜和抗黏劑、成型助劑(Lubricants, release and anti stick agents, moulding aids )
- (12) 微生物控制劑(Micro-organism control agents)
- (13) 微生物營養劑和營養輔料(Microbial nutrients and microbial nutrient adjuncts )
- (14) 噴霧和包裝氣體(Propellant and packaging gases)
- (15) 萃取和加工溶劑(Solvents, extraction & processing)
- (16) 清洗和脫皮劑(Washing and peeling agents )
- (17) 食用酵素( food enzyme )
- (18) 其他功能(other)

# 臺灣加工助劑使用情況清單

## A preliminary use list of processing aid substances in Taiwan (2/2)

### Results

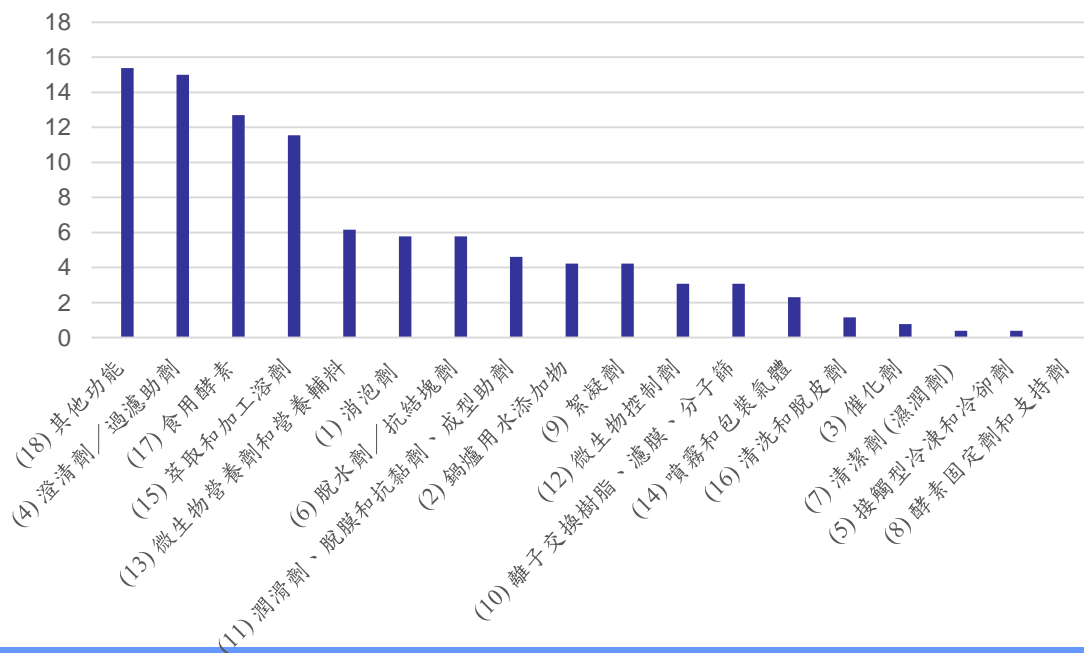
A total of 55 companies have been surveyed with 38 providing the responses up to today. A total of 251 processing aid substances, with duplications between companies, were obtained from the use survey.

The top four categories obtained are:

- (18) 其他功能(other),
- (4) 澄清劑／過濾助劑(Clarifying agents/ filtration aids ),
- (17) 食用酵素( food enzyme ),
- (15) 萃取和加工溶劑(Solvents, extraction & processing)

台灣加工助劑使用調查之功能類別分佈(%)

Category distribution from the survey of processing aid use in Taiwan (%)





## Future Work

- Using the relevant international regulations as a benchmark, gradually add other types of processing aids.
  - For example: Microbial nutrients, Enzymes, Catalysts, Ion exchange resins, release and anti-stick agents, clarifying agents, filtration aids, contact freezing & cooling agents, etc.



Thank you for your attention!

