

DRAFT STANDARD FOR SAFFRON

(at Step 6)

1 SCOPE

This Standard applies to saffron commonly sold in commerce as defined in section 2.1 below, offered for direct consumption as an ingredient in food processing or for repackaging if required. This Standard does not apply to products intended for industrial processing.

2 DESCRIPTION

2.1 Product definition

Dried floral parts of saffron (*Crocus sativus* L.): saffron is obtained from portion of the pistils (i.e. stigmas with part of style) of the *Crocus sativus* L. flower belonging to the *Iridaceae* family.

The "stigma" is the upper section of the aerial part of the pistil. The "style" is the part of the pistil between stigma and the ovary. The stigma is trumpet shaped, serrated or indented at the top and joined to the style at the end.

2.2 Styles/forms

Saffron may be offered in one of the following styles:

- Filaments entire;
- Cut filaments;
- Powdered; and
- Other styles distinct from those above, provided they are labelled accordingly.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Composition

Dried floral parts as described in Section 2.

3.2 Quality factors

3.2.1 Odour, flavour and colour

The product shall have a characteristic odour, colour and flavour, which may vary depending on geo-climatic factors/conditions/varieties, and shall be free from any foreign odour, flavour and colour, especially from rancidity and mustiness.

3.2.2 Chemical and physical characteristics

The generic product shall comply with the requirements specified in Annex I (Chemical Characteristics) and Annex II (Physical Characteristics). The defects allowed must not affect the general appearance of the product as regards to its quality, keeping quality and presentation in the package. There shall not be any form of adulteration in the product.

3.2.3 Classification

In accordance with the chemical and physical characteristics in Section 3.2.2, may be classified into the following Classes/Grades:

- Class/Grade I;
- Class/Grade II; and
- Class/Grade III.

When unclassified/ungraded, the provisions for Class/Grade III apply as the minimum requirements

4 FOOD ADDITIVES

No food additives are permitted in the products covered by this Standard.

5 CONTAMINANTS

5.1 The products covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

5.2 The products covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

6 HYGIENE

6.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXP 1-1969), *Code of Hygienic Practice for low moisture foods* (CXP 75-2015), Annex III, and other relevant Codex texts such as codes of hygienic practice and codes of practice.

6.2 The products should comply with any microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CXG 21-1997).

7 WEIGHTS AND MEASURES

Containers should be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

8 LABELLING

8.1 The products covered by the provisions of this Standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CXS 1-1985). In particular, the following specific provisions apply:

8.2 Name of the product

8.2.1 The name of the product shall be "saffron" as described in Section 2.1

8.2.2 The name of the product may include an indication of the style as described in Section 2.2.

8.2.3 Variety or cultivar may be listed on the label.

8.3 Country of origin/country of harvest

8.3.1 Country of origin/country of harvest shall be indicated and the region of production may be indicated.

8.3.2 Year of harvest may be indicated.

8.4 Commercial Identification

- Class/Grade, if applicable

8.5 Inspection mark (optional)

8.6 Labelling of non-retail containers

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, country of origin, packer, distributor or importer, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, country of origin, packer, distributor or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9. METHODS OF ANALYSIS AND SAMPLING

9.1 Methods of analysis*²

Parameter	Method	Principle	Type ¹
Moisture	AOAC 934.06	Gravimetry	I
	ISO 3632-1	Gravimetry	I
Total Ash	AOAC 941.12	Gravimetry	I
	ISO 928	Gravimetry	I
	ISO 3632-2	Gravimetry	I
Acid Insoluble Ash	AOAC 941.12	Gravimetry	I
	ISO 930	Gravimetry	I
	ISO 3632-2	Gravimetry	I
Soluble extract in cold water	ISO 941	Extraction	I
	ISO 3632-2		I
Taste strength (expressed as picrocrocin) $A^{1\%}$ 1 cm 257 nm	ISO 3632-2	Absorbance	IV
Aroma strength (expressed as safranal) $A^{1\%}$ 1 cm 330 nm	ISO 3632-2	Absorbance	IV
Coloring strength (expressed as crocin) $A^{1\%}$ 1 cm 440 nm	ISO 3632-2	Absorbance	IV
Artificial colorants	ISO 3632-2	Chromatography	II
Extraneous Matter	ISO 927	Visual Examination followed by Gravimetry	I
	ISO 3632-2	Visual Examination followed by Gravimetry	I
Foreign Matter	ISO 927	Visual Examination followed by Gravimetry	I
	ISO 3632-2	Visual Examination followed by Gravimetry	I
Insect Damage	ISO 927	Visual Examination	I
Insects/Insect Fragments	ISO 927	Visual Examination	I
Mould visible	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual, FDA Technical Bulletin Number 5) http://www.fda.gov/Food/FoodScienceResearch/Laboratory Methods/ucm084394.htm#v-32	Visual examination	IV
Excreta Mammalian,	Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (For whole)	Visual Examination	IV
Excreta Other	AOAC 993.27 (For Ground)	Enzymatic Detection Method	IV

* Note: The minimum laboratory sample according to ISO 3632-2 (Table 1) for duplicate analysis is: filament saffron: 11.5 g x 2 = 23 g, powdered saffron: 6.75 g x 2 = 13.5 g

¹ According to the definition of “types of method of analysis” as per Codex Procedural Manual Section II.

² Latest edition or version of the approved method should be used.

9.2 SAMPLING PLAN

To be developed.

Table 1: Chemical Characteristics of Dried Floral Parts — Saffron

General name	Class/G rade	Moisture content %w/w (max)		Total ash % w/w(max)	Acid insoluble ash %w/w	volatile oils mL/100 gm	Non-volatile ether extract %w/w	Water soluble extract cold On dry matter % max	Markers volatile oil			
		Entire filament, cut filament style	Ground /powdered style						Measurement unit should be provided as for the other parameters			
									Picro-crocin	Safranal		color as crocin
		Min	Min	Max	Min							
Saffron	I	12.0	10.0	8.0	1.0	NA*	NA	65	80	20	60	220
	II	12.0	10.0	8.0	1.0	NA	NA	65	70	20	60	190
	III	12.0	10.0	8.0	1.0	NA	NA	65	60	20	60	160

NA*: Not Applicable

Table 2: Physical Characteristics for Dried Floral Parts- Saffron

Product	Class/Grade	Extraneous Matter % w/w (max) ¹	Foreign Matter % w/w (max) ²	Insect fragments max. / 10 gm	Rodent filth Max. number of hairs /10 gm	Mold damaged % w/w (max)	Dead Whole insects, Count/ 100gm (max)	Mammalian excreta mg/Kg (max)	Other Excreta mg/kg	Insect defiled/ infested % w/w (max)	Other defects/ Comments
Saffron	I	0.5	0.1	ND*	ND	ND	ND	ND	ND	ND	-----
	II	3.0	0.5	ND	ND	ND	ND	ND	ND	ND	
	III	5.0	1.0	ND	ND	ND	ND	ND	ND	ND	

ND*: Not Detected

¹Extraneous matter: Vegetative matter associated with the plant from which the product originates but not accepted as part of the final product (i.e. floral and plant waste)

² Foreign Matter: Any visible/detectable objectionable foreign matter or material not usually associated with the natural components of the spice plant, such as sticks, stones, burlap bagging, metal, etc.