

# FOOD GRADE SALT REGULATIONS

(section 13)

(24th September, 2010)

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S.I. 93, 2010.

#### 1. Citation

These Regulations may be cited as the Food Grade Salt Regulations.

#### 2. Interpretation

In these Regulations, unless the context otherwise requires-

**"anticaking agent"** means a substance which is capable of reducing the tendency of individual particles of salt to adhere to one another or for improving their flow characteristics;

**"compound food"** means food which contains food grade salt as an ingredient or flavourant and in which the crystalline characteristic of the food grade salt has been changed owing to it being dissolved or absorbed by other ingredients present in the food and in which the presence of potassium iodate has an undesirable effect on the characteristics of such food;

**"contaminant"** means any substance which, although not added intentionally to a food, is present in such food as a result of the production (including operations carried out in crop husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or as a result of environmental contamination, but does not include insect fragments, rodent hair and other extraneous matter;

**"food additive"** means any safe substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or no such substance has nutritive value which is intentionally added to food for a technological (including sensory) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or storage of such food and which results or may reasonably be expected to result (directly or indirectly) in such substance or the by-products thereof becoming a component of or otherwise affecting the characteristics of such food, but does not include any substance added to food for maintaining or improving nutritional qualities or contaminants;

**"food grade salt"** means a crystalline product consisting of 97 per cent sodium chloride which is used as an ingredient or flavourant in or on food, and which may be obtained from the sea, underground rock salt deposits or natural brine, and which may also be referred to as table salt, cooking salt, flavoured salt or dendritic salt ;

**"impermeable packaging material"** means material that is impermeable to moisture and may consist of one or more of the following substances-

- (a) low density polyethylene;

(b) high density polyethylene;

(c) woven polypropylene or similar materials, and includes polycoated cardboard.

"**iodated salt**" means food grade salt which has been fortified with iodine in the form of potassium iodate a 35 to 65mg/kg;

"**low sodium salt**" means salt containing less than 67 per cent sodium chloride;

"**natural secondary products**" means products other than sodium chloride which are naturally present in the raw material from which food grade salt is manufactured; and

"**nutrient**" means any substance which is consumed as a constituent of a food and which provides energy or which is needed for growth, development and the maintenance of life or a deficiency of which causes characteristic biochemical or physiological changes to occur.

### 3. Application and exemptions

(1) These Regulations shall apply to-

(a) salt which is manufactured, sold, distributed or used as an ingredient in food manufactured or imported into Botswana;

(b) salt used as-

(i) food or as an ingredient in food for direct sale to the consumer and for food manufacturing, or

(ii) a carrier of food additives or nutrients for echnological or public health reasons.

(2) These Regulations shall not apply to salt from origins other than those referred to in the definition of "food grade salt ", especially not salt which is a by-product of chemical industries or low sodium salt.

(3) Processors, packers or importers of food grade salt products packed in quantities not larger than 250g who wish, for any reason to be exempted from the provisions of regulation 6 shall apply to the Director of Health Services.

### 4. Restriction on selling, imports, etc

No person shall manufacture, sell, import or distribute any food grade salt which is not iodated except under and in accordance with terms and conditions specified under regulation 6 (5).

### 5. Composition

(1) Food grade salt shall not contain less than 97 per cent sodium chloride on a dry matter basis, exclusive of food additives.

(2) The remainder of the food grade salt shall comprise natural secondary products which are present in varying proportions depending on the origin and the method of production of the salt and which are composed mainly of-

(a) calcium sulphates, potassiumsulphates and magnesium sulphates;

(b) calcium carbonates, potassium carbonates, magnesium carbonates and sodium carbonates;

(c) calcium bromides, potassium bromides, magnesium bromides and sodium bromides; and

(d) calcium chlorides, potassium chlorides and magnesium chlorides.

### 6. Iodation

(1) Food grade salt shall be iodated by the manufacturer to prevent iodine deficiency disorders (IDD) for public health reasons.

(2) Potassium iodate shall be used for the iodation of food grade salt.

(3) Locally manufactured and imported food grade salt for the Botswana market shall contain between 35ppm (mg/kg)and 65ppm (mg/ kg)iodine a the point of sale or entry.

(4) Food grade salt which is exported from Botswana may contain more than 65ppm (mg/kg)of iodine to meet legal requirements of the importing country.

(5) The provisions of his Regulation shall not apply to-

(a) salt intended for the manufacture of compound foods; and

(b) salt available at pharmacies in packages of 500g or less which is labelled "non-iodated salt".

## **7. Food additives**

(1) All additives used in food grade salt shall be of food grade quality.

(2) Food additive listed in Column I of Schedule I may be added to food grade salt to the maximum limits prescribed in Column II of Schedule I.

## **8. Contaminants**

(1) Food grade salt shall-

(a) not contain contaminants in such amounts and in such form as may be harmful to the consumer;

(b) not contain contaminants exceeding maximum levels listed in Schedule II.

## **9. Hygiene**

Production, packaging, storage and transportation of food grade salt shall be done in a hygienic manner to avoid any risk of contamination.

## **10. Particle size**

Any food grade salt, at least 95 per cent of which can pass through an eight hundred and fifty micron sieve shall be regarded as being fine, while any salt of higher particle size shall be regarded as being coarse.

## **11. Packaging, transport and storage**

(1) Iodated food grade salt shall be packed in airtight containers to avoid the loss of iodine.

(2) Bags of iodated food grade salt shall be made of, or laminated with, impermeable materials such as low density polyethylene (LDPE), high density polyethylene (HDPE) or polypropylene (PP).

(3) Bulk packing units of iodated food grade salt shall not exceed 50kg (in accordance with International Labour Organisation (ILO) Conventions) to avoid the use of hooks for lifting the bags.

(4) Bags that have already been used for packing articles capable of affecting the purity of iodated food grade salt shall not be reused for packing iodated salt.

(5) The distribution network shall be streamlined so as to reduce the interval between iodisation and consumption of salt.

(6) Iodated food grade salt shall not be exposed to rain, excessive humidity or direct sunlight at any stage of storage, transportation or sale.

(7) Bags of iodated food grade salt shall be stored only in covered rooms or warehouses that have adequate ventilation.

## **12. Labelling**

Notwithstanding the provision of Labelling of Prepackaged Foods Regulations (Cap. 65:05 (Sub. Leg.)), the following provisions shall apply-

(a) the name of the product shall be "salt or iodated salt";

(b) the name and address of the manufacturer, packer, distributor, importer or exporter shall be specified on the label;

(c) where food grade salt is used as a carrier for one or more nutrients and sold as such for public health reasons-

(i) the name of the product shall be declared on the label, (for example, "iodated salt", "salt fortified with iron" or "salt fortified with vitamins"),

(ii) added nutrients shall be declared on the label;

(d) the net weight of the salt shall be specified in metric units on the label;

(e) the label shall indicate whether the salt is fine or coarse;

(f) the batch number of the salt shall be specified on the label;

(g) where food grade-salt is not iodated in accordance with these regulations, the term "non-iodated salt" shall appear on the label.

### 13. Method of analysis

The methods which shall be used for determining the content of sodium chloride and the content of other constituents and properties in food grade salt are listed in Annexure I set out in Schedule II.

### 14. Penalties

(1) A person who contravenes a provision of these Regulations commits an offence and is liable-

(a) for a first offence, to a fine not exceeding P1 000, or to imprisonment for a term not exceeding three months, and where the offence is a continuing offence, to an additional fine not exceeding P500, or imprisonment for a term not exceeding one month for each day on which the offence continues; and

(b) for a second or subsequent offence, to a fine not exceeding P5 000, or to imprisonment for a term not exceeding six months, and where the offence is a continuing offence, to an additional fine not exceeding P2 000, or imprisonment for a term not exceeding two months for each day on which the offence continues.

(2) Where a person has been convicted of an offence under these Regulations, the Minister may cancel, or suspend any licence issued to that person which is relevant to the offence committed.

(3) Where a person has been convicted of an offence under these Regulations, the Minister may order that any article relevant to the offence be forfeited and that it be destroyed or otherwise disposed of, as the Minister considers appropriate.

## SCHEDULE I

I <b>Food Additive</b>	II <b>Maximum level in the final product</b>
(a) Anticaking agents	
(i) Tricalcium phosphate	20mg/kg
(ii) Calcium and/or magnesium carbonate Calcium, magnesium, sodium aluminium or calcium-aluminium silicates	GMP
Calcium, potassium or sodium salts of myristic, palmitic or stearic acids	GMP
(iii) Magnesium oxide	GMP

(iv) Silicon dioxide, amorphous	GMP
(vii) Calcium, potassium or sodium	
Ferrocyanides	10mg/kg singly or in combination expressed as $[\text{Fe}(\text{CN})_6]^{3-}$
(b) Emulsifiers	
Polysorbate 80	10 mg/kg
(c) Processing aid	
Dimethylpolysiloxane	10mg residue/kg

GMP (Good Manufacturing Practice)

## SCHEDULE II

I Contaminant	II Maximum level (mg/kg)
Arsenic	0.5 expressed as As
Copper	2 expressed as Cu
Lead	2 expressed as Pb
Cadmium	0.5 expressed as Cd
Mercury	0.1 expressed as Hg

## Annexure I

### METHODS OF ANALYSIS

(a) Determination of sodium chloride content

This method allows the calculation of sodium chloride content, as provided for in Paragraph 13 on the basis of the results of the determinations of sulphate, halogens, calcium and magnesium, potassium and loss on drying. Convert sulphate to  $\text{CaSO}_4$  and unused calcium to  $\text{CaCl}_2$ , unless sulphate in sample exceeds the amount necessary to combine with calcium, in which case convert calcium to  $\text{CaSO}_4$  and unused sulphate first to  $\text{MgSO}_2$  and any remaining sulphate to

Na<sub>2</sub>SO<sub>4</sub>. Convert unused magnesium to MgCl<sub>2</sub>. Convert potassium to KCl. Convert unused halogens to NaCl. Report the NaCl content on a dry matter basis, multiplying the percentage NaCl by 100/100-P, where P is the percentage loss on drying.

(b) Determination of insoluble matter

According to International Organisation for Standardisation (ISO) 2479-1972 "Determination of matter insoluble in water or in acid and preparation of principal solutions for other determinations".

(c) Determination of sulphate content

According to ISO 2480-1972 "Determination of sulphate content-barium sulphate gravimetric method".

(d) Determination of halogens

According to ISO 2481-1973 "Determination of halogens, expressed as chlorine mercurimetric method" (for the recovery of mercury from the laboratory waste, see Annex of ECSS/SC 183-1979).

(e) Determination of Calcium and Magnesium contents

According to ISO 2482-1973 "Determination of calcium and magnesium contents EDTA complexometric methods".

(f) Determination of Potassium content

According to ECSS/SC 183-1979 "Determination of potassium content by sodium tetraphenylborate volumetric method" or alternatively according to ECSS/SC 184-1979 'by flame atomic absorption spectrophotometric method".

(g) Determination of the loss on drying (conventional moisture)

According to ISO 2483-1973 "Determination of the loss of mass at 110 °C".

(h) Determination of Copper content

According to ECSS/SC 144-1977 "Determination of copper content zinc dibenzylidithiocarbamate photometric method".

(i) Determination of Arsenic content

According to method ECSS/SC 311-1982 "Determination of arsenic content silver diethylidithiocarbamate photometric method".

(j) Determination of Mercury content

According to method ECSS/SC 312-1982 "Determination of total mercury content - old vapour atomic absorption spectrometric method".

(k) Determination of Lead content

According to method ECSS/SC 313-1982 "Determination of total lead content - flame atomic absorption spectrometric method".

(l) Determination of Cadmium content

According to method ECSS/SC 314-1982 "Determination of total cadmium content - flame atomic absorption spectrometric method".

(m) Determination of Iodine content

According to method ESPA/CN 109/84 "Determination of total iodine content - titrimetric method using sodium thiosulfate".