

# Salt Iodisation – A Practical Guide for Salt Importers/ Wholesalers/ Retailers

## 食鹽加碘 — 食鹽進口商 / 批發商 / 零售商實用指南

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# Introduction

## 前言

- ▶ **Iodine:** Essential micronutrient required for thyroid hormone synthesis to support growth and development.
- ▶ **Persistently low iodine intake:** Will result in iodine deficiency, damage to developing brain and other harmful effects ← *Iodine Deficiency Disorders (IDDs)*.
- ▶ **碘:** 身體製造甲狀腺激素支持生長發育所需的必需微量營養素。
- ▶ **持續攝入低水平的碘:** 會導致碘缺乏，損害發育中的大腦和構成其他有害影響 ← 「碘缺乏症」。

# Introduction (2)

## 前言(2)

- ▶ **Best way of preventing micronutrient malnutrition:** To ensure consumption of a **balanced diet** adequate in every nutrient.
- ▶ WHO: An appropriate **food fortification programme** can also be **part of a comprehensive food-based strategy** for combating micronutrient deficiencies.
- ▶ 預防微量營養素營養不良的最佳方法: 保持均衡飲食, 確保各種營養素攝入充足。
- ▶ 世衛: 適當的**食物強化計劃**可成為以**食物為基礎的全方位策略的一部分**, 用以應對微量營養素缺乏症。

# Introduction (3)

## 前言(3)

- ▶ **Iodised salt**: Recognised as the most convenient & effective vehicle for administration of supplemental iodine. WHO:
  - ▶ Promotes **Universal Salt Iodization** (USI) to prevent and control IDD's.
  - ▶ States that **addition of iodate/iodide to salt** does not affect the taste/smell of the salt or foods containing iodised salt → **Consumer acceptability is high.**
- ▶ 添加碘的食鹽：被認為是補充碘最方便、最有效的載體。世衛：
  - ▶ 提倡普及食鹽碘化以預防和控制碘缺乏症。
  - ▶ 食鹽中添加碘酸鹽或碘化物不會影響食鹽或含碘鹽食物的味道或氣味 → 廣獲消費者接受。

# Introduction (4)

## 前言(4)

- ▶ Currently, iodised salt (i.e. salt iodised or “fortified” with iodine) not yet widely available in HK. This practical guide:
  - ▶ Made reference to **WHO’s and Codex’s** guidelines and/or standards relevant to iodised salt
  - ▶ Intends to **encourage** food traders to make iodised salt **more accessible** to the local population.
- ▶ 目前，香港加碘食鹽（即碘化或加入碘的食鹽）的供應尚未普及。本實用指南：
  - ▶ 參考世衛和食品法典委員會與碘鹽相關的指南及 / 或標準，
  - ▶ 旨在鼓勵食物業界讓本港市民更易購買碘鹽。

# Practical Guides on Providing Iodised Salt - Content

## 業界提供碘鹽的實用指南 – 內容大綱

1. Procuring/Sourcing of Iodised Salt
  2. When iodising salt, follow WHO's recommendations
  3. Packaging, Transportation and Storage of Prepackaged Iodised Salt
  4. Food Labelling of Prepackaged Iodised Salt
  5. Information on the Usage/Storage of Prepackaged Iodised Salt
1. 採購碘鹽時
  2. 食鹽加碘時，遵循世衛建議
  3. 包裝、運輸和貯存預先包裝碘鹽
  4. 預先包裝碘鹽的食物標籤
  5. 預先包裝碘鹽的使用 / 貯存資料

# Procuring/Sourcing of Iodised Salt

## 採購碘鹽時

- ▶ **Iodised salt:** Available in many places, e.g. Mainland China, USA, NZ.
  - ▶ Most **specialty salts** (e.g. sea salt, kosher salt, Himalayan salt, fleur de sel) are **not usually iodised**.
  - ▶ Many places have **both** iodised and non-iodised salt supply → **confirm with supplier(s)** that the iodised salt purchased are iodised.
- ▶ Procure iodised salt from supplier(s) who could provide the **type of fortificant(s)** and the **level of iodine added** to the salt.
- ▶ 很多地方都有提供**碘鹽**（例如中國內地、美國、新西蘭）
  - ▶ 大部分**特別食鹽**（如海鹽、猶太鹽、喜馬拉雅鹽、鹽之花）一般並未加碘
  - ▶ 很多地方同時供應**碘鹽**和**非碘鹽**→向**供應商確認**所購入的**碘鹽**是已加碘的。
- ▶ 向能提供**碘鹽**中的**強化劑種類**及**碘添加量**的**供應商**採購**碘鹽**。

# When iodising salt, follow WHO's recommendations (1)

## 食鹽加碘時，遵循世衛建議(1)

- ▶ In typical circumstances, to provide **iodine 150µg/d**, iodine conc. in salt (mg of iodine per kg of salt, OR ppm):
  - ▶ Iodised salt at point of production: 20–40 ppm
  - ▶ Iodised salt at household (consumer) level: 15–40 ppm
- ▶ 正常情況下食鹽中加碘(每公斤鹽碘含量以毫克計)可為消費者**每日提供150微克碘**:
  - ▶ 碘鹽在生產時: 20至40百萬分率碘
  - ▶ 碘鹽到用戶(消費者)手上時: 15至40百萬分率碘



# When iodising salt, follow WHO's recommendations (2)

## 食鹽加碘時，遵循世衛建議(2)

- ▶ Iodine fortificants:
  - ▶ **Potassium iodate** and **potassium iodide**
  - ▶ **Others:** seaweed iodine, calcium iodide, calcium iodate, etc.
  
- ▶ 碘強化劑:
  - ▶ 碘酸鉀和碘化鉀
  - ▶ 其他強化劑: 海藻碘、碘化鈣、碘酸鈣等

# Packaging, Transportation & Storage of Prepackaged Iodised Salt (1)

## 包裝、運輸和貯存預先包裝碘鹽(1)

- ▶ Iodine in iodised salt will **lose** from production to household level before consumption. Losses depend on:
  - ▶ Iodisation process,
  - ▶ Quality of salt and packaging materials,
  - ▶ Climatic conditions, etc.
  
- ▶ 由生產到進入家庭的過程中，碘鹽中的碘會在食用前**流失**。流失量視乎：
  - ▶ 碘化過程、
  - ▶ 食鹽和包裝物料的質量、
  - ▶ 氣候條件等因素。

# Packaging, Transportation & Storage of Prepackaged Iodised Salt (2)

## 包裝、運輸和貯存預先包裝碘鹽(2)

- ▶ Some steps to **minimise iodine loss**, e.g.:
  - ▶ Pack the iodised salt in **air tight bags**.
  - ▶ Avoid using **hooks** for lifting bags ← limit bulk packing units to **<50kg**.
  - ▶ Streamline distribution network ← **reduce interval** between iodisation and consumption of salt.
  - ▶ Keep iodised salt away from **excessive humidity** or **direct sunlight** at any stage of storage, transportation or sale.
- ▶ 食鹽貿易商可以採取一些措施來**減少碘流失**，例如：
  - ▶ 用**密封的袋**包裝碘鹽。
  - ▶ 為免使用**掛鉤**提起鹽袋←碘鹽大量包裝單位**<50公斤**。
  - ▶ 精簡分銷網絡←**減少**碘鹽生產和食用之間**相隔的時間**。
  - ▶ 在貯存、運輸和銷售過程中，避免碘鹽置於過於**潮濕**或受**陽光直射**的環境中。

# Packaging, Transportation & Storage of Prepackaged Iodised Salt (3)

## 包裝、運輸和貯存預先包裝碘鹽(3)

- ▶ Provide **smaller packs** of iodised salt for consumers to choose ← storage time can be shortened.
- ▶ 提供小包裝的碘鹽供消費者選擇 ← 縮短貯存時間。

# Food Labelling of Prepackaged Iodised Salt (1)

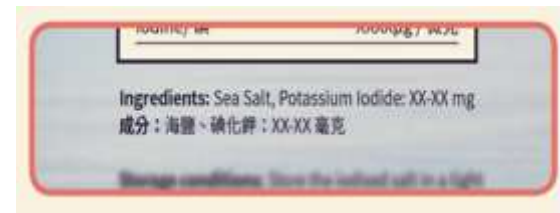
## 預先包裝碘鹽的食物標籤 (1)

- ▶ Iodised salts meeting definition of **prepackaged food**
  - ▶ Shall comply with **Food and Drugs (Composition and Labelling) Regulations (Cap. 132W)** on food labelling requirements (including **nutrition labelling** requirements) unless with exemptions in Cap. 132W.
- ▶ 所有符合預先包裝食物定義的碘鹽：
  - ▶ 須按照《食物及藥物（成分組合及標籤）規例》（第132W章）對食品標籤，包括營養標籤的規定，獲第132W章豁免者，則不在此限。

# Food Labelling of Prepackaged Iodised Salt (2)

## 預先包裝碘鹽的食物標籤 (2)

- ▶ **Ingredients:** listed in descending order of weight or volume determined as at the time of their use when the food was packaged.
  - if salt added any iodine fortificants, shall be listed in the ingredient list.
- ▶ Iodine/Iodide is a mineral according to Cap. 132W
  - ▶ Traders are encouraged to **include iodine level in food label** of prepackaged iodised salts.
- ▶ **配料:** 須按其用於食物包裝時所佔的重量或體積，由大至小依次表列。
  - 食鹽若已添加任何碘強化劑，應在配料表中列出。
- ▶ 根據第132W章，碘屬礦物質
  - 政府鼓勵業界在預先包裝碘鹽的食物標籤上註明碘的含量。



# Information on the Usage/Storage of Prepackaged Iodised Salt

## 預先包裝碘鹽的使用 / 貯存資料

- ▶ **Advise consumers** to store iodised salt in such a manner as to protect it from direct exposure to moisture, heat and sunlight. E.g.
  - ▶ *“Store the iodised salt in a tight and coloured container, and keep it in a dark and dry place.”*
- ▶ 告知消費者保存碘鹽的方法，防止碘鹽直接暴露在潮濕、炎熱和受陽光照射的環境中。例如：
  - ▶ *“將碘鹽貯存在密封的有色容器中，並存放在陰暗乾燥的地方。”*

Storage conditions: Store the iodised salt in a tight and coloured container, and keep it in a dark and dry place.

保存方法：將碘鹽貯存在密封的有色容器中，並存放在陰暗乾燥的地方。

# CFS Webpage – Iodine In Food

## 食物安全中心專題網頁 – 食物中的碘

### Programme Areas

Share:

[https://www.cfs.gov.hk/english/programme/programme\\_fii/programme\\_fii.html](https://www.cfs.gov.hk/english/programme/programme_fii/programme_fii.html)

#### Iodine In Food



#### Iodine In Food

Iodine is an essential micronutrient required for thyroid hormone synthesis to support growth and development. Persistently low iodine intake will result in iodine deficiency or even damage to the developing brain and other harmful effects known collectively as iodine deficiency disorders (IDDs).

The best way of preventing micronutrient malnutrition is to ensure consumption of a balanced diet that is adequate in every nutrient. On the other hand, the World Health Organization (WHO) recommends that an appropriate food fortification programme can also be part of a comprehensive food-based strategy for combating micronutrient deficiencies.

#### Consumption of Iodine-rich Foods

Human body needs only a small amount but regular daily intake of iodine (see WHO recommended iodine intake). When ingested in large amounts, iodine is readily excreted through the kidneys into the urine. While excessive iodine intake for a long time may disrupt the thyroid gland's normal functions, healthy adults can safely tolerate an intake up to 1,000 µg/day.

The public is advised to include foods that are rich in iodine in their dietary choice and take precautions to reduce iodine loss as iodine may dissolve in water during cooking. To retain its maximum amount, try to steam or stir-fry foods with little oil, and cook clean crustaceans intact.

Foods rich in iodine	Iodine (µg/kg)
Dried kelp and laver	8,900 – 2,600,000
Seaweed snack and nori sheet for sushi	6,400 – 38,000
Shellfish and marine water fish	32 – 2,100
Dairy products	40 – 1,400

#### Iodised Salt

Iodised salt has been recognised as the most convenient and most effective vehicle for the administration of supplemental iodine. The WHO promotes the Universal Salt Iodisation (USI) to prevent and control IDDs. The addition of iodate or iodide to salt does not affect the taste or smell of the salt or foods containing iodised salt, and therefore consumer acceptability is high.

Many brands of salts have iodised and non-iodised counterparts. Check their food labels (e.g. brand name and ingredient list) for any indication of iodine being added, such as the words "iodi-" (e.g. iodised, iodized, iodide, iodine), "ioda-" (e.g. iodated, iodate), "laver", "algae", "kelp", "seaweed", etc.

#### Guides for Food Businesses

- Salt Iodisation: A Practical Guide for Salt Importers, Wholesalers and Retailers

#### Advice to the Public

- Iodine in Food

#### Extended readings on iodine and health

- Dietary Iodine Intake in Hong Kong Adults
- Have You Taken Enough Iodine?
- Centre for Health Protection Department of Health – Iodine Survey
- Department of Health – Do You Have Adequate Iodine?

#### Extended readings on food labelling of iodine salt

- Frequently Asked Questions on Food Labelling
- Technical Guidance Notes on Nutrition Labelling and Nutrition Claims
- Nutrition Labelling Information for Trade

### 工作項目

Share:

[https://www.cfs.gov.hk/tc\\_chi/programme/programme\\_fii/programme\\_fii.html](https://www.cfs.gov.hk/tc_chi/programme/programme_fii/programme_fii.html)

#### 食物中的碘



#### 食物中的碘

碘是身體製造甲狀腺素必需的元素，對人體的發育至關重要。若碘攝入量不足，則會導致碘缺乏症，甚至導致發育中的大腦和神經系統受損。此種情況，即稱為「碘缺乏症」。

預防碘營養不足的最佳方法是選擇攝入碘豐富食品。此外，世界衛生組織（世衛）建議適量的碘強化計劃也可以幫助以食料為基礎的碘攝取的一部分，以對抗碘營養缺乏症。

#### 食用碘含量豐富的食物

人體每天只需攝入少量碘，但攝入量過高，亦大膽攝入，碘攝入量過高則對健康有害。攝入過量碘可導致甲状腺功能亢進。一般健康的成年人可安全地每天攝入1,000微克碘攝入量。

市民應選擇碘含量豐富的食物。由於碘攝入量不足，這導致有碘營養不足的情況。為確保碘攝入量適中，市民可採用標籤上印有碘含量的食品。選擇碘含量豐富的食品，如海帶、紫菜、海藻類等。

碘含量豐富的食物	碘 (微克 / 公斤)
乾燥海帶及紫菜	8,900 – 2,600,000
海苔零食及壽司用海苔	6,400 – 38,000
介殼類水產及海魚	32 – 2,100
奶類製品	40 – 1,400

#### 碘鹽

碘鹽已被認為補充碘最方便、最有效的途徑。它不僅方便且易於儲存，且能預防和消除碘缺乏症。鹽中添加碘鹽可使碘水平適量，身體可吸收碘鹽中的碘。

許多品牌的鹽都有已加碘和未加碘的對應產品。選擇產品的食物標籤（或由品牌名稱和配料）是否有標明已加碘的字樣，例如「碘」、「加碘」、「碘化鈉」、「碘化鉀」、「碘鹽」（即添加碘鹽、碘化鈉）、「紫菜」、「海苔」、「海藻」、「海帶」等。

#### 標籤上的指引

- 含碘加碘、含碘無碘、無碘及含有碘化鈉

#### 給市民建議

- 食物中的碘

#### 延伸閱讀：碘與健康

- 香港成人碘攝入量的情況
- 你的碘攝入量足夠嗎？
- 衛生署健康資訊中心-碘攝入量調查
- 衛生署-你攝入足夠碘嗎？

#### 延伸閱讀：標籤的食物標籤

- 食物標籤常見的問題
- 營養標籤及營養標籤技術指南
- 標籤上的營養標籤資料



Thank you!  
謝謝!

