

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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81ST TRADE CONSULTATION FORUM 第81次業界諮詢論壇



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)

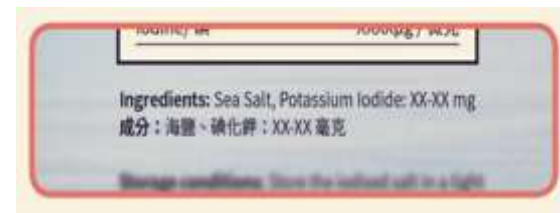
預先包裝碘鹽的食物標籤 (1)

- ▶ 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《食品及藥品（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

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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	2,500 – 2,800,000
Seaweed snacks 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 IDD. The addition of iodine 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.

Guides for Food Businesses

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

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 iodised 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

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https://www.cfs.gov.hk/tc_chi/programme/programme_fii/programme_fii.html

食物中的碘



食物中的碘

碘是身體製造甲状腺素支持生長發育所必需的必需微量營養素。持續攝入低水平的碘會導致碘缺乏症。嚴重碘缺乏會導致大腸癌和視網膜其他病變等。這稱為「碘缺乏症」。

預防微量營養素缺乏的最佳方式是確保攝入均衡的飲食。此外，從界面上提供（如海）鹽補碘是公共衛生計劃也可以成為以食物為基礎的綜合策略的一部分，以對抗微量營養素缺乏。

食用碘含量豐富的食物

人體每天只需少量但規律的每日碘攝入量（參見 WHO 建議的碘攝入量）。當攝入量過大時，碘會通過腎臟排出到尿液中。雖然過量攝入碘可能會暫時打亂甲狀腺功能，一般健康的成年人可以安全地承受每天攝入 1,000 微克碘。

公眾應在飲食選擇中包含碘含量豐富的食物，並採取措施減少碘損失。並應避免在烹飪過程中將碘溶於水中。海鹽應保持完整。市民可以考慮減少油量的方法烹飪食物，並確保清潔完整的甲狀腺動物。

碘含量豐富的食物	碘 (微克 / 公斤)
乾海帶及紫菜	2,500 – 2,800,000
海苔零食及壽司用紫菜	6,400 – 38,000
貝類、水生魚及海魚	32 – 2,100
奶類製品	40 – 1,400

碘鹽

碘鹽已被認為補碘最方便、最實用的選擇。從健康飲食及食鹽強化中預防和消除碘缺乏症。鹽中增加碘鹽或碘化物不會影響食鹽或其補碘食品的味道或氣味。因此消費者接受度很高。

給業界的指引

- 食鹽加碘：食鹽進口商、批發商及零售商實用指南

延伸閱讀：碘與健康

- 專業成年人碘攝入量調查
- 你吃海帶、紫菜夠嗎？
- 衛生防護中心 – 碘質水平調查
- 衛生署 – 你攝取足夠碘嗎？

延伸閱讀：碘鹽的食物標籤

- 食物標籤常見問題
- 營養標籤及營養聲明指南
- 供應商的營養標籤資料

Thank you!
謝謝!

