

International standards: improving the quality of iodized salt supplies

Frits van der Haar Global Public Nutrition Services, LLC and Visiting Associate Professor, Emory University School of Public Health, Atlanta, USA

Background

Since Universal Salt Iodization (USI) was first recommended as a key strategy for eliminating iodine deficiency in the 1990s, regulations on salt iodization have been enacted around the world. In 2008, UNICEF counted ongoing salt iodization strategies in around 120 countries (1). Salt iodization efforts straddle different interests across sectors of society, and effective follow-through of such regulations requires a collaborative partnership among public, private, and civic organizations, each with unique roles and responsibilities (2). Once salt iodization has been mandated, the salt industry has the duty to supply only salt with adequate iodine content as defined by a national standard. Setting iodization standards involves a number of considerations, including the habitual dietary iodine intake in the population and the intake shortfall to be made up. And in case the habitual consumption of sodium changes, there may be need to revise the prescribed salt iodine levels.

Although the IDD-related guidelines stress the importance of monitoring by health authorities (3), the production and quality performance of salt enterprises falls typically under the authority of a Ministry of Trade, Commerce and/or Industry. The ongoing consolidation of the industry, the rapid extension of new technologies into remote areas, and the proliferation of bi- and multi-lateral trade agreements make international standards increasingly important. And as these arrangements become adopted ever more widely, they can assist in promoting more permanent elimination of IDD by aligning the international standards with national USI strategies.

The World Trade Organization (WTO)

The WTO (4) deals with global agreements on the rules of trade between nations. Its main function is to ensure that trade flows as smoothly, predictably, and freely as possible. Based in Geneva, Switzerland, WTO came into being in 1995 as the successor to the General Agreement on Tariffs and Trade (GATT). In June 2014, the WTO website listed 160 member countries. Decisions in the WTO are taken by consensus and are then ratified by the member countries.

As a result of the WTO work, consumers and producers know they can expect more secure supplies and a greater choice of products, raw materials, and services. Producers and exporters know that foreign export markets will remain open to them. Any trade friction is channeled into WTO's dispute settlement procedures. The WTO agreements cover goods, services, and intellectual property and spell out the principles of trade liberalization and the permitted exceptions. They include individual countries' commitments to lower trade barriers and settle disputes; they prescribe special treatment for developing countries, and they require governments to make their trade policies more transparent. The WTO encourages its members to use international standards where they exist. For example on foods, an annex in WTO agreements specifically cites the FAO/WHO Codex Alimentarius Commission. If a country does apply international standards, it is less likely to be challenged legally in WTO than if it sets its own standards.

GATT remains the WTO's principal rule-book for cross-border trade. Through the GATT agreement, each WTO member receives guarantees that its exports will be

treated fairly and consistently in other countries' markets, and each promises to do the same for imports. Nevertheless, WTO has recognized human health as being highly important, and each WTO member retains the right to determine the level of health protection it deems appropriate. GATT permits member governments to restrict the import of products, including fortified foods (5), to protect the life or health of humans, animals, and plants in their own country, provided they do not use this as disguised protectionism.

There are two subordinate agreements relevant to these rights, namely on Technical Barriers to Trade (TBT) and on Sanitary and Phytosanitary Measures (SPS). The TBT aims to ensure that the regulations, standards, and certification procedures adopted by members do not create unnecessary obstacles for trade. TBT recognizes that each member has the right to adopt product standards it considers appropriate. Importantly, to uphold this right, the TBT only requires that state members *take available scientific information into account*, whereas the SPS requires that the member state should *demonstrate the scientific basis to justify a trade measure* aimed at a health risk (6). If the currently available scientific evidence is not sufficient, the SPS permits adoption of provisional measures, but ultimately the member state must produce scientific evidence.

The International Organization for Standardization (ISO)

The ISO is a non-governmental network of national standards institutes from 163 countries with a secretariat in Geneva. The organization develops and promotes international standards of desirable characteristics of products and services such as quality, environmental friendliness, safety, reliability, efficiency, and interchangeability at an economical cost. The widespread adoption of ISO standards means that suppliers can offer products that meet specifications with wide international acceptance. As a result, businesses that adhere to ISO standards can compete on more markets around the world. ISO standards are the technical means by which international trade agreements—such as the GATT, TBT, and SPS—help to overcome trade barriers by creating “a level-playing field” for competition. For governments, the ISO standards provide a technological and scientific basis for improved health, safety, and environmental legislation. And for consumers, conformity to ISO standards increases the confidence in the quality, safety, and reliability of products and services.

ISO initiates new standards in response to the needs of businesses, governments, or civic society. The ISO 9000 (7) family of „quality management“ standards define what an organization should do to fulfill the customer’s quality requirements and adhere to regulatory requirements, while aiming at customer satisfaction and improving its performance. Due to their wide adoption, the ISO 9000 standards have become an international reference for quality management in business-to-business dealings. Many large salt companies in the world show the ISO 9000 logo on their corporate website to demonstrate that their quality management systems have been certified in an external, ISO-affiliated assessment.

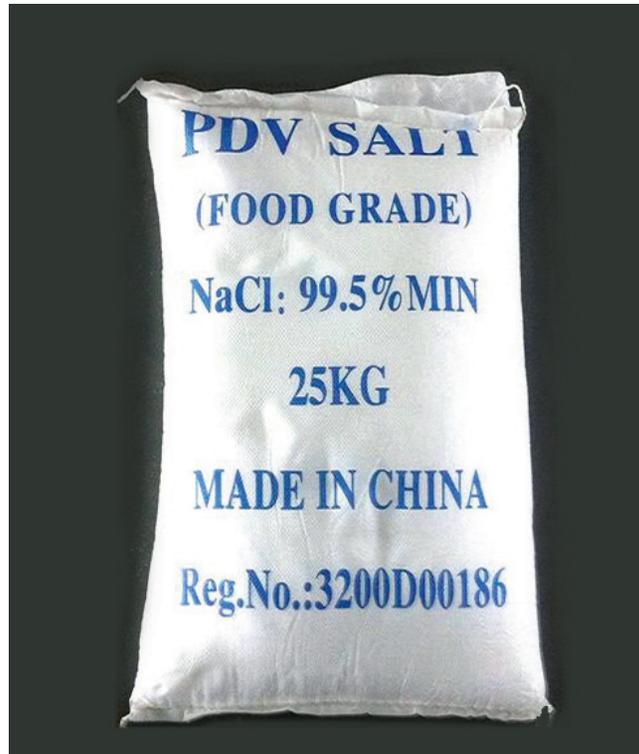
The Codex Alimentarius Commission

Codex Alimentarius (Latin for “food law” or “code”) was initiated in 1963 by FAO and WHO to provide an international reference of food standards that aim to protect the health of consumers, support fair practices in the food trade, and help coordinate the food standards work undertaken by international organizations (8). The part of the Codex Alimentarius most relevant to salt iodization is the *General Principles for*

the Addition of Essential Nutrients to Foods (CAC/GL 07-1987, amended 1989, 1991), which offers a set of over-arching principles and provides guidance in developing legal texts for the addition of essential nutrients to foods. Another important section of the Codex Alimentarius is named *Codex Alimentarius—Food labeling—Complete texts* and deals with labeling and claims issues.

The Codex Alimentarius Commission is an inter-governmental body, hosted by FAO in Rome, Italy, and constituted of a secretariat plus 29 committees open to all members of FAO and/or WHO. The two committees most directly related to fortification issues are the Codex Committee

prevent iodine-deficiency disorders (IDD) for public health reasons. For the fortification of food grade salt with iodine, use can be made of sodium and potassium iodides or iodates. The maximum and minimum levels used for the iodization of food grade salt are to be calculated as iodine (expressed as mg/kg) and shall be established by the national health authorities in the light of the local iodine situation. The production of iodized food grade salt shall only be performed by reliable manufacturers having the knowledge and the equipment requisite for the adequate production of iodized food grade salt, and specifically for the correct dosage and even intermixing.”



on Nutrition and Foods for Special Dietary Uses, hosted by the German government, and the Codex Committee on Food Labeling, hosted by Canada.

The Codex Alimentarius Commission has developed the *Codex Standard 150-1985 for Food Grade Salt* (9) which applies to salt as an ingredient of food, both for direct sale to consumers and for industrial manufacturing of processed foods. In harmony with the General Principles, Standard 150-1985 includes a special section on the use of salt as a carrier of food additives and/or nutrients, stating that: “In iodine-deficient areas, food grade salt shall be iodized to



Manufacturers of food-grade iodized salt strive to obtain ISO 9000 certification.

Implications

The above-referenced global agreements and international organizations will continue to expand over time. Being aligned, they are already offering an umbrella arrangement that can assist in the quality management of national salt iodization strategies while taking into account the interests of all stakeholders. ISO provides the product management standards and conformity rules to support the interests of salt producers and traders in fair competition and transparent trade. WTO member states are increasingly using the ISO standards in their regulatory oversight of the salt industry and in the mutual recognition of conformity certificates in cross-border trade. The Codex Alimentarius standard for food-grade salt offers a global endorsement to salt iodization in the interest of protecting the health of consumers, and the SPS agreement requires member states to produce scientific evidence in case of a trade measure against iodized salt and/or foods manufactured with the use of iodized salt.

Current international salt trade patterns show that in a large number of countries the national salt supply depends entirely or largely on outside suppliers. For example, in the 16 countries of East and Southern Africa, the salt supplies originate from large-scale producers in only six countries: Eritrea, Kenya, Tanzania, Botswana, Republic of South Africa, and Namibia. In West and Central Africa, the major salt suppliers are located in only two countries: Senegal and Ghana. Almost the entire salt consumption of Nigeria is shipped in from North-Eastern Brazil, while much of the salt consumed in South and South-Eastern Asian countries is

supplied by large salt companies in India, Australia, and China.

Clear, agreed-upon, and transparent international standards on quality management and predictable trade are of keen interest to these producers and their allied traders. Many have strived to obtain ISO 9000 certification, thereby signaling their ability and comfort of operating under global governance rules. The adoption of ISO standards by WTO members implies that the authorization and certification of these enterprises by a parent Ministry of Trade & Industry are typically conducted according to the same global rules. Therefore, when salt iodization is compulsory, the product and its quality assurance management practices, the packaging (labeling, claims etc.), and the certification at sales release are subject to mandatory inspection and review by the relevant Ministry as an integral part of the authorization process. For consumers in importing countries, adherence to this system increases their confidence of being sold a product of good value at an acceptable price. The fact that in WTO history not a single dispute case has been submitted on iodized salt or on foods manufactured with it suggests that the international salt trade proceeds with little risk. Aligning the national oversight function of salt iodization strategies with the system described for international trade would lessen the burden on the food and/or sanitary control authorities related to inspection and enforcement of national USI regulations in the market.

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References

1. UNICEF. Sustainable elimination of iodine deficiency—progress since the 1990 World Summit for Children. New York: UNICEF; 2008
2. Ramalingaswami V. The public health imperative of permanent elimination of iodine deficiency. In: Geertman RM, Ed. Proceedings of the 8th World Salt Symposium Vol 1. Amsterdam: Elsevier; 2000: 3–11
3. WHO/UNICEF/ICCIDD. Indicators for assessing iodine deficiency disorders and their control through salt iodization (paragraph 99). Geneva: WHO; 1994
4. http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm
5. Annex F to Allen LH, et al. Guidelines on food fortification with micronutrients. Geneva: WHO and FAO; 2006: 318–330
6. World Health Organization and World Trade Organization. WTO agreements and public health. A joint study by the WHO and the WTO Secretariat. Geneva: WRO; 2002
7. http://www.iso.org/iso/catalogue_detail?csnumber=21823
8. http://www.codexalimentarius.net/web/index_en.jsp
9. http://www.codexalimentarius.net/web/more_info.jsp?id_sta=3 (CODEX STAN 150-1985, Rev. 1-1997, Amend. 1-1999, Amend. 2-2001, Amend. 3-2006)