

REPUBLIC OF THE SUDAN
NATIONAL CODEX ALIMENTARIUS COMMITTEE

FOOD SAFETY SITUATION IN SUDAN



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Introduction

Sudan covers an area of 1,881,000 square km. It has land boundaries with Egypt, Libya, Ethiopia, Eritrea, Chad, Central African Republic, Southern Sudan and a coastline of 835 km. Sudan's only seaport (Port Sudan) is located on the Red Sea in the Northeast. The capital Khartoum is located in the northern half of the country some 1000 km from the port. The population is 33,419,625.

Sudan's economic development depends on agriculture, which currently accounts for some 34% of GDP and 90% of exports. The main thrust of national development is now to increase agricultural productivity in order to attain self-sufficiency in basic food commodities, so as to cut down imports and go beyond self-sufficiency, thereby become an exporter of animal and plant products.

The National Codex Committee (NCC) decided to mark the 50th anniversary of the Codex Alimentarius Commission. One of NCC's activities with this respect, is to prepare this document:

"Food Safety in Sudan", which will focus on the situation of Public Health.

1. Importance of Food Safety

From the perspective of public health administration, the control of food safety intended for human consumption may fall under the following considerations:

- The prevention of the sale of food which is unfit for the human consumption.
- The prevention of the sale of articles of food to which any improper addition has been made or from which a natural or essential constituent has been removed, or which is not of the nature, substance or quality demanded.
- The prevention of importation of food with inferior standards.
- Control of food premises where food is processed, stored, handled and sold.

The public health burden of food borne diseases in the Sudan is considerable. A number of inhabitants become ill, and some die from food borne diseases. Many different pathogens and toxins have been identified as causes of food borne diseases and new ones continue to emerge.

Prevention also includes food borne diseases caused by infectious agents, natural and environmental toxins. Many food borne diseases that were formerly threatening public health are now controlled by standardized well accepted prevention strategies, such as the pasteurization of raw milk and the appropriate management of food canning.

The increasing food safety problems witnessed by Sudan, requires rapid and effective responses. In order to meet this complex public health responsibility, the national capacity to predict and prevent food-borne hazards must be strengthened through public

awareness, monitoring and rapidly reacting against outbreaks of food-borne diseases and the occurrence of newly emerging food-borne agents.

Over the past years, several events have occurred on the international scene, which highlighted the importance of food safety in health and development. The most important event was the FAO/WHO International Conference on Nutrition (ICN), held on 5 - 11 December 1992 in Rome- Italy. The Conference recognized the access to nutritionally adequate and safe food as the right of each individual and pointed out that hundreds of millions of people suffer from communicable and non-communicable diseases caused by contaminated food and water.

Subsequently, in its Plan of Action for nutrition, the Conference identified the protection of consumers and the prevention of food-borne diseases as two main strategies for overcoming malnutrition. Emphasis is placed on the importance of safe food as three of the nine themes of the Plan of Action for Nutrition, namely: (theme 3) protecting consumers through improved food quality and safety, (theme 4): preventing and managing infectious diseases and (theme 8): promoting appropriate diets and healthy lifestyles.

Earlier in 1992 the United Nations Conference on Environment and Development (Rio Conference – Earth Summit), adopted Agenda 21, which notes the need to protect and promote human health through inter alia the control of communicable diseases. It also notes the need to protect and promote human health through the management of toxic chemicals, many of which reach human beings via food.

In 1990 the World Summit for children adopted the World Declaration on Survival Protection and Development of Children , as well as a Plan of Action to implement this World Declaration. Improvement in children's health and nutrition is identified in these documents as a high priority issue. And the provision of adequate diets is seen as one of the important interventions.

Even as far back as 1978, safe food was implicitly recognized in the Declaration of Alma Ata as one facet of the essential elements of Primary Health Care : Provision of food and proper nutrition. Therefore, and contrary to prevailing views at that time, all countries – and particularly those in greatest need – should be concerned with food safety and not just food security.

In this context, it is important to underline the fact that although food safety is mainly a health issue – and thus the responsibility of the health sector – action to improve food safety calls for the involvement of other governmental and public sectors : these include agriculture, trade, tourism, education and industry. In view of this, food safety programmes or individual activities may sometimes be implemented under different umbrellas. In any case it is essential that **HEALTH** plays a leading and coordinating role in matters related to food safety, and that they collaborate closely with other sectors in the implementation of activities. This concept is referred to as *Shared Responsibility*.

2. Evolution of Food Safety in Sudan

Food inspection in the Federal Republic of Sudan is the responsibility of the Federal Ministry of Health (Directorate of Environmental Health and Food Control – FOOD CONTROL SECTION) through Public Health Officers and their assistants. Food inspection is part of the responsibility of Public Health Officers, who are also responsible for environmental health services in their specified areas. Public Health Officers beside officers from other authorized institutions are responsible for the inspection of food at all stages.

Concerning the legal frame, Sudan depends for a long time on the Public Health Act 1939 which covers all aspects of public health with a very few and centralized articles dealing with food hygiene issues.

Each State has its own Environmental Health Ordinance, which regulates all activities of environmental health including food safety inspection and control.

In 1973 the people's Assembly passed a federal act called "FOOD CONTROL ACT 1973" which gives power to the federal authority to supervise food control activities all over the country and to regulate exports and imports.

In accordance with the Food Control Act 1973, the Federal Minister of Health issued the following regulations:

■ ***RESTRICTION OF ADDITION OF FOOD ADDITIVES 1977***

It regulates the addition of all food additives such as colours, preservatives, flavours, thickening agents ...etc. and it contains a list of permitted food additives and their recommended levels. The list is subject to periodical revision.

■ ***GENERAL HEALTH REQUIREMENTS OF FOOD PROCESSING ESTABLISHMENTS 1977***

It deals with hygienic requirements of buildings, equipment, utensils and food handlers in big food establishments, whereas small scale food establishments are covered by the local ordinance.

■ ***PREPACKED FOOD REGISTRATION 1978***

Any processed pre-packed food, whether imported or locally produced, must be registered by the Registration Committee before it is permitted for sale.

■ ***INSPECTION, SAMPLING AND ANALYSIS 1980***

It deals with the authority for food inspectors to enter food establishments, in addition to sampling procedures, quantities of samples and methods of analysis.

The Federal Ministry of Agriculture and Irrigation plays a vital role in controlling agricultural products by producers' awareness and by enforcement of its different Acts and regulations such as:

- **Federal Pesticides and Pest Control Products Act 1994**
- **Federal Agricultural Fertilizers Act 2010**
- **Federal Seeds and Species Protection Act 2010**

The Federal Ministry of Animal Resources, Fisheries and Ranges has got its own mandate. It carries out inspection in the field of animal, fish and fishery products and enforces the following Acts and regulations;

- **Federal Meat Inspection Act 1974**
- **Federal Veterinary Health Quarantine for Exported and Imported Live Animals and Meat 2004**

The Sudanese Standards and Metrology Organization (SSMO) was established in the year 1992 and since then the SSMO has taken over the full responsibility of issuing all commodity standards including food.

The organization issued more than **1,000** food standards following the CODEX and ISO recommendations.

SSMO also enforced the 2008 Act, which gives the organization the power to inspect all food commodities produced locally, as well as imported or exported.

The bulk of work of food safety in Sudan now is carried by **SSMO** and the **standards** issued cover all types of commodities, code of practices, guidelines, sanitary requirements and measures for food establishments and transportation vehicles.

3. Economic Impact

No studies have been carried out to estimate the health impact of the food-borne diseases. Disease outbreaks in Sudan have affected productivity, income generation and raised expenditure on health. Failure to meet safety requirements of importing countries threatened agricultural products.

4. Health Impact

Improper control of food hygiene and safety results in the occurrence of many cases of food-borne infections and intoxications. The most common diseases are those caused by bacterial contamination such as Salmonella, Staphylococcus, Bacillus and Clostridium food poisoning. Also Typhoid and Paratyphoid infections are common.

5. Social Impact

- Caregivers spend more time looking after the sick.
- Income earned is lost in terms of man hours leading to depletion of savings, increased poverty, lack of food, malnutrition and perpetuation of poverty.

- As a result, demand for food is based on quantity and price in low income groups in contrast to safety and quality in higher income communities.

6. Overview of food safety system in Sudan

6.1 Human Resources

- Human resource capacity is inadequate in terms of food safety management tools such as HACCP and risk analysis amongst food inspectors and food safety managers in micro, small and some medium enterprises.

6.2 Standards and Technical Committees

- Standards are prepared by technical committees according to well-established procedures of the SSMO. These technical committees have members from various stakeholders, which include: industries, business, research centers, universities, ministries, labour associations, consumer protection associations and experts to guarantee a wide range of consultation.

6.3 Food-borne Diseases Surveillance

- Food-borne disease surveillance is carried out by the Federal Ministry of Health (Department of Epidemiology).
- Statistics available on food-borne disease in Sudan are not well analyzed and documented.

6.4 Food Safety Management and Coordination

- Each agency carries out its activities according to its mandate.
- Regulatory agencies include Federal Ministry of Health (FMOH), Sudanese Standards and Metrology Organization (SSMO), Ministry of Agriculture and Irrigation (MOAI), Ministry of Animal Resources, Fisheries and Ranges (MOARFR), Ministry of Foreign Trade (MOFT), Ministry of Environment and Forestry (MOEF) and Ministry of Industry (MOI).
- Certification audits for management systems, products and food safety are provided on demand by Sudanese Standards and Metrology Organization (SSMO).
- Laboratory analysis is provided by FMOH, SSMO, MOAI, MOARFR, in collaboration with universities and research institutes and centers.
- Inspection for safety of inputs and food safety is undertaken by FMOH, SSMO, MOAI, MOARFR.

- Sudan has recognized the need to have an effective and coordinated **FOOD SAFETY MANAGEMENT SYSTEM**, and has initiated consultation among regulatory bodies to facilitate commitment on the establishment of a coordinating body that will promote effective integrated and coordinated system.

6.5 Laboratory Support Services for Food Hazards

- The existing laboratory support services in regulatory agencies include radiation, pathogens, mycotoxins, heavy metals, pesticides, and veterinary drug residues.
- The equipment available in some of these laboratories are relatively old.
- Collaboration exists between some regulatory agencies and research institutes such as Food Research Centre.
- Efforts are underway in some institutions to upgrade and modernize the equipment .

6.6 Food Inspection and Enforcement Mechanism

- Food hygiene inspection of ready-to-eat food is carried out by the Federal Ministry of Health at national, state and local levels through their Environmental Health Officers,
- Other government agencies including SSMO, MOAI and MOARFR are also inspecting food chain including production premises, industry, borders (entry points), fish processing establishments, fish markets, shops and means of transport.
- Food inspection involves visual inspection and random sampling for laboratory analysis.
- Food found to be unsafe is impounded and destroyed. Premises without hygienic practices are closed, charges are drawn and those found guilty are subject to corrective actions.
- However the penalties are low and not all agencies have the authority to close a firm immediately, thus rendering the enforcement weak.

6.7 Public/Private Partnership for Ongoing Training

- Public/private partnership trainings are ongoing, but are institutionally- based lacking coordination and consumer education is lacking.
- Quality assurance programmes such as those provided by WHO, FAO and UNIDO, assist food producing and manufacturing firms to adhere to good hygienic, good agricultural and manufacturing practices.

- Open and in-house trainings for HACCP are offered at cost. This limits the participation of micro-scale, small and some medium scale enterprises.

6.8 Communication among Stakeholders

- The market forces create communication between stakeholders involved in food supply chain and export.
- Existing communication is limited to regulator, producer and processors and is lacking amongst consumers.
- Private sector associations are spearheading communications among purchasers and transporters to promote food safety.
- The effectiveness of communication among food safety stakeholders is well demonstrated by the access of horticulture industry to export markets.

6.9 Uses of Food Chain Approach in the Food Supply Chain

The use of the food chain approach exists in the food safety system and it involves several agencies. Each agency operates independently to fulfill its respective mandate.

- The FMOH is responsible for the general food safety issues including food hygiene, prevention and control of food-borne infections and intoxications.
- SSMO assists processors (industry) and food importers to adhere to food safety and quality assurance principles.
- MOAI and MOARFR assist producers, processors and food handlers to adhere to good agricultural practice (GAP), animal husbandry and hygienic practices. Also carry out market surveillance to ensure that agricultural inputs and food products comply with the safety regulations and food standards.
- The above mentioned institutions require coordination and integration to minimize duplications enforcement gaps.

6.10 Challenges Faced

- Cost involved in compliance to market requirements.
- Harmonization of legislations.
- Consumer confidence.
- Maintaining food quality (Provision of efficient laboratory services).
- Knowledge and skills in current/and emerging food safety issues.
- Surveillance of food-borne diseases and disease outbreaks.
- Coordination of food safety inspection and monitoring activities.

6.11 Approaches

6.11.1 Market Requirement

- National Task Force should be established to address compliance with export market requirement.
- Compliance with export market standards for packaging and labeling.
- Code of hygienic practice are to be developed.

6.11.2 Harmonization of Legislations

- Stakeholders must hold a consultative meetings to set up a coordinating body to address harmonization and coordination of food safety legislations.

6.11.3 Consumer Confidence

- Provision of certification services to food processing plants such as ISO 9000, ISO 14000, product certification and also HACCP.
- Accreditation of laboratories to internationally recognized bodies.
- Establish a national accreditation body.

6.11.4 Maintaining of Food Quality

- Establishment of cooling facilities for horticultural products.
- Periodical Inspection and monitoring of market, industry imports and exports.
- Promotion of provision of laboratory support services.
- Efforts to improve extension and advisory services for NGOs, private sector and government are ongoing.
- Education and awareness programmes for producers and regulatory personnel.

6.11.5 Provision of Efficient Laboratory Services

- Upgrading and modernization of equipment is on-going, but subject to availability of funds.
- Encourage participation in quality assurance programmes for laboratories personnel.

6.11.6 Knowledge and Skills of Emerging Food Safety Issues

- Sensitization and awareness programmes on safety of foods derived from biotechnology, is ongoing.
- Training of personnel and trainers in other food safety aspects is ongoing but limited to institutions.

6.11.7 Disease Outbreaks

- A national programme on the Surveillance of food-borne infections and intoxication will be established soon at the Federal Ministry of Health so as to assess the burden of these infections.
- Disease outbreaks are managed through the Department of Epidemiology at the Federal Ministry of Health.

7. Participation in International Workshops and Conferences

- Sudan is actively participating in most of international conferences and seminars held by WHO,FAO,ISO,WTO, COMESA, GATT and OIE.

8. Technical Assistance provided by FAO and Codex Trust Fund

In the period 1992 – 1994 the Federal Ministry of Health has received a very kind and generous assistance from the Food and Agriculture Organization of the United Nations TCP/SUD/2253. During the said period the Federal Ministry of Health has benefited from the project by training **60** of its Public Health Inspectors for a period of one month in the field of food safety.

The project also assisted the Ministry in sending abroad three of its inspectors for one month period of training in Sweden, Kenya and Zimbabwe.

The project also provided laboratory equipment for the Faculty of Public and Environmental Health at the University of Khartoum. And also provided advanced inspection tools for the food inspectors of the Federal Ministry of Health.

In the period 2001 – 2003 the Federal Ministry of Agriculture and Irrigation received an appreciated assistance from FAO through the Technical Cooperation Project TCP/0172(A), which aimed at capacity building of those working in the field of food safety. About 30 Veterinarians and Public Health officers were trained in the modern aspects of food safety with emphasis on HACCP concept for a period of two weeks.

Also an international consultant held a mission for the purpose of the promotion of the cottage industry of white cheese in the White Nile State. National consultants were recruited for the purpose of drafting a new Food Safety Act.

In the period 2012 – Present: Sudan received an appreciated assistance from the Codex Trust Fund through the WHO –EMRO in a form of a specialized pilot project which is investigating the magnitude of mycotoxins in sorghum. The project involving four countries including Sudan, is currently implemented collectively by all concerned bodies.

9. Sudan and Codex

Sudan is one of the first African countries to join Codex Alimentarius Commission. It has joined Codex officially in 1968 but attended meetings since 1965. Professor **Abdelhamid Ibrahim** (male) of the Federal Ministry of Health was the first Sudanese government official to attend Codex meetings in **1965 CAC7**. The first Sudanese female to attend these meetings was Prof. **Soad Hassan Satti** of the Federal Ministry of Health in **1997. (CCPR29)**.

The first person to act as CCP was **Prof. Abdelhamid Ibrahim** of the National Chemical Laboratories at the Federal Ministry of Health (1968 -1999).

The second person to act as CCP was **Dr. Abdelgadir Mohamed Abdelgadir** of the Sudanese Standards and Metrology Organization (SSMO) (1999-2001).

The third person to act as CCP was **Mr. Hamdi Abbass** of the Ministry of Agriculture and Irrigation and the CCP is still located at the Ministry of Agriculture and Irrigation. The **current** CCP is **Dr. Afaf Abdelrahim Elgozouli** –Director of Exports Promotion and Quality Control Unit

The current National Codex Alimentarius Committee is composed of all **stakeholders** including private sector, academia and consumer groups. It holds its meeting once per month and coordinates all food safety issues.

The Committee will honour the first Sudanese CCP and also the first person who attended Codex meetings.

This report contains a list of detailed summary of Sudanese participants who attended the different Codex Committees meetings since 1963 up to June 2013.

10. Regional Electronic Food Safety Information Exchange System

Sudan already started contacts with Arab countries through the CCP in the CCNEA7 meeting held this year in Beirut – Lebanon (21-25 January 2013) and has already submitted a proposal for establishing an Arab Food Safety Authorities Network (**ARFOSAN**) following the principles taken by **INFOSAN** so as to facilitate the electronic information exchange between food safety authorities in the field of food contaminants and food-borne infections and intoxications.

11. SUMMARY OF FOOD STANDARDS ISSUED BY THE SUDANESE STANDARDS AND METEROLOGY ORGANISATION FOLLOWING CODEX RECOMMENDATIONS

01 PACKING AND PACKAGING

No.	Name of the Standard	Serial Number	Year of Issue
01	Label design for the package of the white cheese intended for export	SDS 1067	2007
02	White cheese package	SDS 0764	2007
03	Green pepper package intended for export	SDS 0097	2007
04	Package of ladies finger intended for export	SDS 0096	2007
05	Tea packages	SDS 1413	2007
06	Packages of green peas intended for export	SDS 0095	2007
07	Carton of grape fruits intended for export	SDS 1414	2007
08	Packages of green lemon intended for export	SDS 0094	2007
09	Carton label for sweet melon intended for export	SDS 0176	2009
10	Package of mango intended for export	SDS 0051	2007
11	Package of sweet melon intended for export	SDS 0050	2007
12	Carton of black egg intended for export	SDS 0098	2007
13	Packaging carton of green pepper	SDS 0177	2007
14	Package of dried onion intended for export	SDS 0113	2007
15	Design of carton label of mango intended for export	SDS 0191	2009
16	Packages of fresh fruits and vegetables for local market	SDS 1581	2007
17	Coffee packages	SDS 2488	2007
18	Packages of banana intended for export	SDS 2583	2007
19	Liquid milk containers	SDS 2723	2007
20	Fresh eggs packages	SDS 2350	2007
21	Information on package or label of the food commodities	SDS 28890	2007
22	Packaging of milk products	SDS 2915	2007
23	Edible oil packets	SDS 3481	2005
24	Vinegar packets	SDS 3598	2005
25	Bottled drinking water packets	SDS 3330	2005
26	Plastic bags for handing food commodities	SDS 3633	2006
27	Sweets packing and packaging	SDS 3683	2006
28	Processed poultry packets	SDS 3708	2006
29	Bread packets	SDS 3698	2997
30	Hibiscus packets	SDS 3762	2007

No.	Name of the Standard	Serial Number	Year of Issue
31	Packets of fresh, chilled and frozen meat and meat products	SDS 3704	2006
32	Table salt packets	SDS 3705	2006
33	Packaging of dates	SDS 3784	2007
34	Flour packets	SDS 3854	2007
35	Packaging of leafy vegetables for local market	SDS 3863	2007
36	Macaroni , noodles and suksukania packets	SDS 3892	2007
37	Packed food or label specification	SDS 2889	2007
38	Spices packets	SDS 4173	2008
39	Packets of sterilized milk	SDS 4172	2008
40	Packets of frozen fruits and vegetables	SDS 4199	2008
41	Packaging carton of cucumber intended for export	SDS 4358	209
42	Packets of pumpkins intended for export	SDS 4426	2009
43	Packets of potato	SDS 4485	2009
44	Packets of grapes	SDS 1036	2009
45	Packets of garlic	SDS 4499	2009
46	Packets of pears fruits	SDS 1134	2009
47	Packets of apple	SDS 1226	2010
48	Packets of bees honey	SDS 4798	2011
49	Packets of sugar	SDS 4800	2011
50	Packets of apricot fruits	SDS 4671	2011
51	Packets of animal feed	SDS 4672	2011
52	Packets of peach fruits	SDS 5036	2011
53	Packets of edible oil	SDS 4971	2011
54	Packets of strawberry fruits	SDS 4216	2011
55	Packets of carrots	SDS 4215	2011
56	Packaging of mango fruits products	SDS 5342	2012
56	Packing of jams and marmalades	SDS 5327	2012
57	Packets of tahnia sweet	SDS 5324	2012
58	Packets of string peas (Basilla)	SDS 4876	2011
59	Packets of cherry fruits	SDS 5055	2011
60	Information on packets and label of food commodities	SDS 2889	2011
61	Packets of infant formula	SDS 5273	2011
62	Packets of carbonated water and soft drinks	SDS 5272	2012

02 FOOD ADDITIVES AND CONTAMINANTS

No.	Name of the Standard	Serial Number	Year of Issue
01	Cereal additives	SDS 0630	2002
02	Meat additives	SDS 0110	2002
03	Fish and fishery products additives	SDS 2315	2003
04	Edible fats and oils additives	SDS 1560	2002
05	Eggs and egg products additives	SDS 2314	2003
06	Fruits and vegetables additives	SDS 2477	2003
07	Confectioneries additives	SDS 2478	2003
08	Sugar, honey and sweetener additives	SDS 2479	2003
09	Additives for coffee, coffee substitutes, tea, herbal infusions and other hot cereal beverages excluding cocoa	SDS 2510	2003
10	Salt, herbs, spices and seasoning additives	SDS 2574	2003
11	Ready to eat and eat savories additives	SDS 1670	2003
12	Water and soft drinks additives	SDS 2724	2004
13	Pesticide residues in food - 1.1 Primary food commodities of plant origin – 1.2 Vegetables (Part 5)	SDS 3491	2005
14	Pesticide residues in food - 1.1 Primary food commodities of animal origin – 1.2 Mammalian products (sheep meat)	SDS 4032	2005
15	Pesticide residues in food - 1.1 Primary food commodities of animal origin – 1.2 Mammalian products (cattle meat)	SDS 3270	2005
16	Pesticide residues in food - 1.1 Primary food commodities of plant origin - 1.2 Vegetables (Part 4)	SDS 3290	2005
17	Pesticide residues in food - 1.1 Primary food commodities of plant origin – 1.2 Vegetables (Part 3)	SDS 3289	2005
18	Pesticide residues in food - 1.1 Primary food commodities of plant origin – 1.2 vegetables (Part 1)	SDS 3287	2005
19	Pesticide residues in food - 1.1 Primary food commodities of plant origin – 1.2 Vegetables (Part 1)	SDS 3288	2005
20	Pesticide residues in food – 1.1 Primary food commodities of animal origin – 1.2 Mammalian products (goat meat)	SDS 4031	2005
21	Pesticide residues in food- 1.1 Poultry food commodities of animal origin 1.2 Poultry products	SDS 3269	2005
22	Additives for edible ices including sherbet and sorbet	SDS 2476	203
23	Table salt additives	SDS 2475	2007

No.	Name of the Standard	Serial Number	Year of Issue
24	Canned infant and children food additives	SDS 3783	2007
25	Additives for processed tomato concentrates	SDS 3869	2007
26	Pectin additives	SDS 3942	2007
27	Contaminants in milk	SDS 3953	2007
28	Contaminants in meat and meat products	SDS 4144	2007
29	Vanilla (Salisbury vanilla flavor)	ISO 1-5565/1999 SDS 1-4350	2009
30	Food additives for foods for special dietary uses	SDS 3782	2008
31	Contaminants of fish and fishery products	SDS 4424	2009
32	Contaminants of poultry and poultry products	SDS 4490	2009
33	Spiced tomato sauce (ketchup)	SDS 4500	2009
34	General Codex standard for contaminants and toxins in food and feed GCSCTEF	ISO 193/1995 SDS 1061	2009
35	Codex standards for food ingredients for low energy meals used for dieting	Codex 203/1995 SDS 1116	2009
36	Hot pepper	SDS 1088	2009
37	Maximum levels of residues of veterinary drugs in foods	CAC/MRL 02/2009 SDS 1096	2010
38	Spices (Zingiber officinale rascoe)	ISO 10003/E/2008 SDS 1240	2010
39	Carry powder	ISO 2253/1999 SDS 1244	2010
40	Dry and fresh bread yeast	SDS 4604	2010
41	Dried garlic (Allium sativum L)	ISO 5560/1997 SDS 4649	2010
42	Black pepper (Piper nigrum L.) whole or milled	ISO-1-959/1998 SDS 1-4646	2010
43	White pepper (Piper nigrum L.)	ISO-2-959/1998 SDS 2-4646	2010
44	Milled sweet pepper (Capsicum annuum L.)	ISO 7540/2006 SDS 4648	2010
45	Clinical diets for severe acute malnutrition which is processed from Sudanese groundnuts butter	SDS 5076	2012
46	Coffee and its substitutes additives, tea, hot drinks extracted from herbs and cereals except cocoa	SDS 4774	2012
47	Aspartame and its derivatives	SDS 5286	2012
48	Food colours	SDS 5318	2012

03 MYCOTOXINS

No.	Name of the Standard	Serial Number	Year of Issue
01	Maximum levels of mycotoxins in Sesame seeds	SDS 2928	2005
02	Maximum levels of mycotoxins in Tea	SDS 2926	2005
03	Maximum levels of mycotoxins in nuts	SDS 2927	2005
04	Maximum levels of mycotoxins in Cotton seeds	SDS 3332	2005
05	Maximum levels of mycotoxins in Vegetable oils	SDS 3331	2005
06	Maximum levels of mycotoxins in Sunflower seeds	SDS 3333	2005
07	Maximum levels of mycotoxins in Cattle feed	SDS 2924	2005
08	Maximum levels of mycotoxins in Poultry feed	SDS 2925	2005
09	Maximum levels of mycotoxins in Coffee	SDS 2923	2004
10	Maximum levels of mycotoxins in Soya beans	SDS 3334	2005
11	Maximum levels of mycotoxins in Spices	SD 2846	2006
12	Maximum levels of mycotoxins in Groundnuts and groundnut products	SDS 2839	2006
13	Maximum levels of mycotoxins in Infant and children formula	SDS 2840	2006
14	Maximum levels of mycotoxins in Cereal and cereal products	SDS 2842	2006
15	Maximum levels of mycotoxins in Legums	SDS 2843	2006
16	Maximum levels of mycotoxins in Milk and milk products	SDS 2841	2006

04 POULTRY AND POULTRY PRODUCTS

No.	Name of the Standard	Serial Number	Year of Issue
01	Frozen poultry meat	SDS 0750	2007
02	Table egg	SDS 0751	2207
03	Covered and uncovered poultry minced meat and parts	SDS 2849	2007
04	Dried egg	SDS 3901	2007
05	Frozen whole egg	SDS 3902	2007
06	Liquid egg	SDS 3966	2007
07	Chicken soup	SDS 1266-2	2010
08	Heat processed meat of domesticated birds	SDS 1265	2010
09	Poultry luncheon	SDS 1267	2010
10	Manual or mechanical deboned poultry meat prepared for processing	SDS 4789	2011
11	Minced poultry meat	SDS 5188	2012

05 FRUITS AND VEGETABLES

No.	Name of the Standard	Serial Number	Year of Issue
01	Onion	SDS 0019	2007
02	Tomato	SDS 1050	2007
03	Potato	SDS 1403	2002
04	String beans	SDS 0004	2007
05	Sweet pepper	SDS 1572	2007
06	Sweet melon	SDS 0003	2007
07	Banana	SDS 0120	2007
08	Okra	SDS 1402	2007
09	Mango	SDS 0002	2007
10	Grape fruit	SDS 0020	2007
11	Zucchini – Marrow	SDS 1404	2007
12	Grape	SDs 1405	2007
13	Garlic	SDS 1421	2007
14	Apple	SDS 1051	2007
15	Lemon	SDS 0043	2007
16	Dates	SDS 1052	2007
17	Pear	SDS 2316	2007
18	Water melon	SDS 2220	2007
19	Apricot	SDS 2784	2004
0	Carrot	SDS 2575	2007
21	Orange	SDS 4300	2009
22	Plum	SDS 4384	2009
23	Cherry	SDS 4654	2010
24	Fresh beet	SDS 4738	2010
25	Peach	SDS 4653	2010
26	Kiwi	SDS 4737	2010
27	Guava	SDS 4198	2008
28	String peas	SDS 1074	2009
29	Eggplant	SDS 1044	2009
30	Hot pepper	SDS 1077	2007
31	Pomegranate	SDS 1045	2007
32	Cabbage	SDS 1124	2007
33	Cucumber	SDS 1123	2007
34	Cucumber	SDS 1101	2007

No.	Name of the Standard	Serial Number	Year of Issue
35	Jew's mallow	SDS 4812	2011
36	Dry onion	ISO 5559/1995 - SDS 4675	2011
37	Spinach	SDS 4650	2010
38	Frozen Jew's mallow	SDS 4803	2010
39	Cauliflower	SDS 4677	2010
40	Flower	SDS 4831	2010
41	Grapefruit	SDS 020	2010
42	Papaya	SDS 4652	2010
43	Pineapple	SDS 4654	2010
44	Strawberry	SDS 4651	2010

06 MEAT AND MEAT PRODUCTS

No.	Name of the Standard	Serial Number	Year of Issue
01	Fermented dry sausage	SDS 1457	2008
02	Minced meat	SDS 0042	2008
03	Fresh sausage	SDS 0295	2008
04	Cooked sausage	SDS 1001	2008
05	Basturma	SDS 0198	2008
06	Beef burger	SDS 0197	2008
07	Smoked sausage	SDS 1401	2008
08	Fresh, chilled and frozen meat of sheep goat and cattle	SDS 0038	2008
09	Cooked smoked sausage	SDS 1407	2008
10	Dried canned beef slices	SDS 4039	2009
11	Canned concentrated meat soup	SDS 4041	2009
12	Canned meat balls with soup	SDS 3314	2005
13	Canned meat luncheon	SDS 3315	2010
14	Canned beef with soup	SDS 3316	2005
15	Dried meat	SDS 3612	2009
16	Fermented semi-dried sausage	SDS 1408	2008
17	Canned salted minced beef	SDS 3203	2010
18	Canned sausage	SDS 4169	2007
19	Pure soup	SDS 1081	2009

07 CEREAL AND LEGUMS AND THEIR PRODUCTS

No.	Name of the Standard	Serial Number	Year of Issue
01	Wheat flour	SDS 0037	2010
02	Wheat grains	SDS 0036	2011
03	Maize grains	SDS 2480	2007
04	Maize flour	SDS 2483	2007
05	Sorghum grains	SDS 2481	2008
06	Sorghum flour	SDS 2482	2008
07	Semolina	SDS 1006	2007
08	Macaroni, spaghetti, noodles	SDS 0605	2008
09	Biscuit	SDS 3275	2010
10	Wafer biscuits	SDS 3274	2010
11	Natural food starch	SDS 3276	2005
11	Packed barely chips	SDS 3659	2006
12	Non oil dry cereal seeds	SDS 3639	2006
13	All types of bread	SDS 3780	2007
14	Millet flour	SDS 3805	2007
15	Pilled lentils	SDS 3795	2007
16	Cake	SDS 3928	2007
17	Rye grains	SDS 4092	2008
18	Cake mixtures	SDS 3945	2008
19	Corn flex	SDS 4386	2009
20	Cereal based child and infant formula	SDS 4140	2008
21	Canned sweet sorghum	SDS 4444	2009
22	Soya protein products	SDS 4445	2009
23	Crushed rice	SDS 3795	2009
24	Rye grain for malt industry	SDS 4463	2009
25	Confectionery	SDS 4481	2009
26	Frozen dough	SDS 4493	2009
27	Corn maize whole meal flour	SDS 2483	2009
28	Barley grain	SDS 4092	2009
29	Shelled lentil	SDS 3795	2009
30	Natural food starch	SDS 3276	2009

No.	Name of the Standard	Serial Number	Year of Issue
31	Sorghum flour	SDS 2482	2009
32	Small maize grain	SDS 4525	2009
33	Custard	SDS 4726	2010
34	Fortified flour	SDS 4793	2011
35	Mixed flour bread	SDS 4771	2011
36	Mixed flour	SDS 4781	2011

08 SUGAR AND ITS DERIVATIVES

No.	Name of the Standard	Serial Number	Year of Issue
01	White sugar	SDS 1561	2011
02	Raw high purity sugar	SDS 2486	2011
03	Raw sugar standards	SDS 2485	2010
04	Natural bee honey standards	SDS 2487	2007
05	Refined sugar	SDS 2484	2007
06	Tahniah sweet	SDS 3476	2006
07	Jam, jelly and marmalade	SDS 3423	2006
08	Artificial honey	SDS 2657	2007
09	Almonds standards	SDS 3760	2007
10	Cocoa seeds	SDS 3752	2007
11	Cocoa powder	SDS 3748	2007
12	Glucose Syrup	SDS 3751	2007
13	Glucose sugar	SDS 2905	2007
14	Maltose sugar	SDS 2906	2007
15	Sweet processing sugar	SDS 2780	2007
16	Raw sugar	SDS 2485	2007
17	Invert sugar	SDS 2657	2010

09 FATS AND OILS

No.	Name of the Standard	Serial Number	Year of Issue
01	Sudanese groundnut oil	SDS 199	2009
02	Sudanese groundnut	SDS 115	2009
03	Palm oil	SDS 1011	2009
04	Edible palm oil	SDS 1007	2002
05	Sunflower oil	SDS 1008	2008
06	Cotton seed oil	SDS 1010	2010
07	Olean oil	SDS 1009	2010
08	Corn oil	SDS 1569	2009
09	Olive oil	SDS 1567	2009
10	Hydrogenated vegetable oil (vegetable ghee)	SDS 1570	2009
11	Soya bean oil	SDS 1568	2009
12	Curcuma oil	SDS 2400	2009
13	Margarine (vegetable butter)	SDS 2330	2009
14	Hibiscus seed oil	SDS 2402	2009
15	Canola oil	SDS 2213	2009
16	Water melon seed oil	SDS 2411	2003
17	Selected Sudanese groundnuts	SDS 3317	2005
18	Water melon seeds	SDS 3393	2009
19	Sesame	SDS 116	2009
20	Sesame oil I	SDS 0047	2009
21	Soya bean oil standard specifications	SDS 1568	2002
22	Sun flower standard specifications	SDS 1008	2002
23	Hydrogenated vegetable oil standard specifications	SDS 1570	2002

10 MILK AND MILK PRODUCTS

No.	Name of the Standard	Serial Number	Year of Issue
01	Powdered milk	SDS 0108	2008
02	White cheese	SDS 1428	2007
03	Whole milk	SDS 0107	2007
04	Ready to eat cream	SDS 0290	2007
05	Butter	SDS 1406	2007
06	Yoghurt	SDS 0291	2007
07	Hard cheese	SDS 1429	2007
08	Animal ghee	SDS 0193	2007
09	Flavored yoghurt and Heat reredated yoghurt after fermentation	SDS 0749	2007
10	Pasteurized milk	SDS 0189	2007
11	Flavored milk	SDS 3227	2009
12	Fermented milk	SDS 3243	2005
13	Sterilized milk (amendment 2006)	SDS 3615	2006
14	Gouda cheese	SDS 2910	2006
15	Cooked cheese and cheese paste	SDS 3799	2007
16	Mother substitute milk	SDS 3800	2008
17	Milk, cream and semi-cream ices	SDS 3847	2007
18	Codex international individual standard for Brie	C/34/1973- SDS 3838	2007
19	Codex international individual standard for coulommiers	C/7/1969- SDS 3838	2007
20	Codex international individual standard for cottage cheese, including creamed cottage cheese	C/16/1968 SDS 3837	2007
21	Codex international individual standard for Saint-paulin	C/13/1968-SDS 3836	2007
22	Codex international individual standard for Extra hard grating cheese	C/35/1978 SDS 3840	2007
23	Codex international individual standard for Named variety process(ed) cheese and spreadable process(ed) cheese	A/8a/1978 SDS 3831	2007
24	Codex international individual standard for Edible casein product	A/18/1995 Rev. 1/2001 SDS 3835	2007
25	Codex international individual standard for Whey chesses	A/7/1978 Rev. 1/1999 SDS 3830	2007
26	Codex international individual standard for Process(ed) cheese preparations , process(ed) cheese food and process(ed) cheese spread	A/3/1971 Rev. 1/1999 SDS -3833	2007
27	Codex international individual standard for Evaporated milk	A/3/1971 Rev. 1/1999 SDS 3821	2007

No.	Name of the Standard	Serial Number	Year of Issue
28	Codex international individual standard for Edam	C/4/1966 - SDS 3826	2007
29	Codex international individual standard for Samose	C/7/1966 – SDS 3826	2007
30	Codex international individual standard for Cheddar	C/1/1966 – SDS 3823	2007
31	Codex international individual standard for Whey powders	A/15/1995 SDS 3834	2007
32	Codex international individual standard for Process(ed) cheese and spreadable process(ed) cheese	A/8b/1978 SDS-3832	2007
33	Codex international individual standard for Sweetened condensed milk	A/4/1971, Rev.1/1999- SDS 3822	2007
34	Codex international individual standard for Tilsiter	C/11/1968 SDS 3820	2007
35	Codex international individual standard for Camembert	C/33/1973 SDS 3839	2007
36	Codex international individual standard for Cream cheese (Rahmfrischkase)	C/31/1973 SDS 3841	2007
37	Codex international individual standard for Havarti	C/6/1966 – SDS 3819	2007
38	Codex international individual standard for Danbo	C/3/1966 – SDS 3819	2007
39	Codex international individual standard for Emmentaler	C/9/1967- SDS 3827	2007
40	Codex international individual standard for Provolone	C/15/1968 – SDS 3829	2007

II FISH AND FISHERY PRODUCTS

No.	Name of the Standard	Serial Number	Year of Issue
01	Chilled fish	SDS 2215	2008
02	Dried fish	SDS 2216	2008
03	Smoked fish	SDS 2218	2010
04	Processed fish (burger-sausage- minced- kofta)	SDS 3324	2010
05	Codex standards for canned shrimps and prawns	37/1991- Rev. 1/1995 SDS 3861	2007
06	Codex standards for tuna and bonito	70/1981- Rev. 1/1995 SDS 3860	2007
07	Codex standards for quick frozen blocks of fish fillets, minced fish flesh and mixture of fillets and minced fish flesh	166/1989- Rev. 1/1995 SDS 3883	2007

No.	Name of the Standard	Serial Number	Year of Issue
08	Codex standards for canned salmon	3/199- Rev.1/1995 SDS 3882	2007
09	Codex standards for quick frozen shrimps and prawns	92/1981- Rev. 1/1995 SDS 3878	2007
10	Codex standards for quick frozen lobsters	95/1981-Rev. 2/1981-SDS 3879	2007
11	Codex standards for quick frozen raw squid	191/1995-SDS 3881	2007
12	Codex standards for quick frozen (fish finger) fish portions and fish fillets- breaded or in butter	166/1995 SDS 3880	2007
13	Canned mackerel fish	SDS 3884	2007
14	Frozen fish	SDS 3768	2007
15	Salted fish	SDS 2217	2007
16	Fresh fish	SDS 2214	2007
17	Radiation preserved fish	SDS 4217	2009
18	Dried shark fins	Codex 189/1993 - SDS 4326	2009
19	Canned finfish	Codex 119/2008 - SDS 4418	2009
20	Live and raw bivalve	Codex 292/2008 – SDS 4419	2009
21	Caviar processing	SDS 4541	2009
22	Boiled, dried and salted anchovies	Codex 236/2003 - SDS 1263	2010
23	Frozen fish	SDS 3768	2010
24	Chilled fish	SDS 2215	2010
25	Quick frozen fish fillets	Codex 190/1995 - SDS 1262	2010
26	Crackers from marine and fresh water fish, crustaceans and shellfish	Codex 222/2001 SDS 4688	2010
26	Canned mackerel fish	SDS 3884	2010

12 MICROBIOLOGICAL LIMITS

No.	Name of the Standard	Serial Number	Year of Issue
01	Whole milk	SDS 0296	2007
02	Pasteurized milk	SDS 0297	2007
03	Powdered milk	SDS 0298	2007
04	High temperature treated milk and concentrated milk	SDS 0299	2007
05	Pasteurized cream	SDS 3725	2007
06	High temperature treated flavored milk and concentrated milk	SDS 0300	2007

No.	Name of the Standard	Serial Number	Year of Issue
07	Condensed milk and condensed salted milk and caramelized milk	SDS 0301	2007
08	Pasteurized flavor cream	SDS 0302	2007
09	Fermented cream	SDS 0304	2007
10	Fermented milk products (Yoghurt and Labna)	SDS 0305	2007
11	Flavored fermented milk products (Yoghurt and labna)	SDS 0306	2007
12	Dried ice-cream powder	SDS 0307	2007
13	Ice-cream (milk and water ices)	SDS 0308	2007
14	Soft cheese	SDS 0309	2007
15	Hard and semi-hard cheese (Sudanese white cheese-	SDS 0310	2007
16	Smoked cheese	SDS 3716	2007
17	Processed cooked cheese	SDS 2009	2007
18	Casينات	SDS 2010	2007
19	Butter	SDS 2011	2007
20	Ghee from milk fats	SDS 2012	2007
21	Salted butter	SDS 3717	2007
22	Cereals (sorghum, millet, wheat, maize, rice, rye)	SDS 2013	2007
23	Cereal flour, bran and similar products	SDS 2014	2007
24	Soya bean flour, or soya concentrates or extracts	SDS 2015	2007
25	Starch (corn flour, custard0	SDS 2016	2007
26	Chips and pos of rice, maize and potato	SDS 2019	2007
27	Fresh pastry slices	SDS 2020	2007
28	Pasta, noodles and suksokania (all types dry)	SDS 2021	2007
29	Breakfast meal (corn flex, and other similar)	SDS 2022	2007
30	Bread	SDS 2023	2007
31	Sweetened bread or by egg or milk	SDS 2024	2007
32	Normal biscuit or filled with cream or covered by cream	SDS 2025	2007
33	Dry biscuit 9normal or covered by cream)	SDS 2026	2007
34	Instant dried products (do not need heating before consumption)	SDS 2052	2007
35	Cereal based infant food	SDS 0329	2007
36	Dried products which need heating before consumption	SDS 0330	2007
37	Powdered infant formula with lactic acid bacteria	SDS 0331	2007
38	Sterilized Liquid infant formula	SDS 0332	2007
39	Heat treated canned infant food	SDS 0333	2007
40	Chilled carcass (halves , quarters of fresh boned or deboned carcass)	SDS 0341	2007
41	Chilled and frozen viscera	SDS 0342	2007

No.	Name of the Standard	Serial Number	Year of Issue
42	Frozen deboned meat	SDS 2044	2007
43	Frozen minced meat	SDS 3718	2007
44	Chilled minced meat	SDS 2045	2007
45	Dried meat extracts	SDS 2046	2007
46	Protein products derived from meat like beef soup concentrate	SDS 0334	2007
47	Meat treated by salt or drying in whole or pieces or slices like Bbaturma	SDS 3719	2007
48	Fresh sausage types	SDS 0335	2007
49	Frozen fresh meat products like burgers, kofta and kaba	SDS 0336	2007
50	Cooked meat and cooked meat products (ready to eat)	SDS 0337	2007
51	Processed cooked meat products smoked or non-smoked (frankfurters, martedella luncheonetc.	SDS 0338	2007
52	Instant soups that contain meat, vegetables and other ingredients	SDS 2027	2007
53	Fresh vegetables	SDS 0339	2007
54	Chilled or frozen vegetables	SDS 2040	2007
55	Fresh or frozen vegetables prepared for cooking	SDS 2028	2007
56	Light boiled frozen vegetable (potato chips and cubes)	SDS 2029	2007
57	Dried vegetables	SDS 2030	2007
58	Fresh or frozen fruits	SDS 2031	2007
59	Ready to use dried fruits	SDS 2032	2007
60	Fruits and vegetables that are used as ingredients in processing	SDS 2033	2007
61	Fruits and vegetables that are preserved in vinegar, oil or brine solution	SDS 2034	2007
62	Fruits and vegetables with pH higher than 4.6 (tomato paste, Ketchup)	SDS 2035	2007
63	Canned foods with pH higher than 4.6	SDS 2036	2007
64	Fresh, chilled or frozen poultry	SDS 2037	2007
65	Frozen cooked poultry(ready to eat chicken burger)	SDS 2038	2007
66	Cooked chicken coated with bread crumb	SDS 3727	2007
67	Smoked, cooked or salted poultry(martedella, frankfurter, turkey pastrami or smoked turkey breast)	SDS 2039	2007
68	Dried poultry products (soup cubes and others)	SDS 2040	2007
69	Chilled or frozen liquid egg(whole, white or yellow)	SDS 2041	2007
70	Pasteurized egg (liquid, frozen or dried)	SDS 2042	2007
71	Egg products prepared for special uses (elder feeding, convalescence and allergy foods)	SDS 2043	2007
72	Fresh and frozen fish and their products (blocks, minced and ground)	SDS 0357	2007

No.	Name of the Standard	Serial Number	Year of Issue
73	Pre-cooked fish coated with bread crumb	SDS 0358	2007
74	Frozen raw shellfish	SDS 0360	2007
75	Frozen cooked shellfish	SDS 3061	2007
76	Chilled and frozen cooked lobster meat	SDS 0362	2007
77	Fresh and frozen crustaceans	SDS 0363	2007
78	Fasikh (fermented salted fish, whole, powder, paste, ground,, tarkeen)	SDS 0364	2007
79	Drinking water	SDS 0367	2007
80	Treated drinking water entering distribution network	SDS 0368	2007
81	Treated drinking water in the distribution network	SDS 0369	2007
82	Bottled drinking water	SDS 0370	2007
83	Ready to use ice	SD 0371	2007
84	Sugar	SDS 2047	2007
85	Bee honey	SDS 2048	2007
86	Tea and other herbs that boiled and drunk as tea	SDS 0508	2007
87	Raw coffee grains	SDS 0509	2007
88	Roasted or milled coffee or other instant	SDS 0510	2007
89	Instant bread yeast (dry or compressed)	SDS 0511	2007
90	Chewing gum	SDS 2049	2007
91	All types of chocolates (sweetened by milk or it's ingredients or by nuts or jammed or coated)	SDS 0513	2007
92	Solid sweet like caramel and other similar	SDS 2050	2007
93	Cocoa powder	SDS 0515	2007
94	Dried coconut (peeled)	SDS 0516	2007
95	Nuts (Sudanese groundnuts ..etc..)	SDS 0517	2007
96	Food colours (powder or liquied)	SDS 2051	2007
97	Molasses –brown sugar cubes – sugarcane honey.	SDS 0519	207
98	Jelly	SDS 0520	2007
99	Animal gelatin	SDS 0521	2007
100	Dried enzymes (animal, plant or microbial origin- or by fermentation)	SDS 0522	2007
101	Tahena and groundnuts paste	SDS 0523	2007
102	Margarine (vegetable ghee)	SDS 0524	2007
103	Natural juices and nectars	SDS 0525	2007
104	Non alcoholic soft drinks	SDS 0526	2007
105	Jams	SDS 0527	2007
106	Gum Arabic	SDS 0528	2007

No.	Name of the Standard	Serial Number	Year of Issue
107	Mayonnaise, other egg salads and mustard	SDS 0529	2007
108	Spray dried hibiscus poder	SDS 0530	2007
109	Hibiscus flower and powder	SDS 0531	2007
110	Tahina	SDS 0532	2007
111	Spices	SDS 0533	2007
112	Ketchup and mustard	SDS 0535	2007

13 ANIMAL FEEDING STUFFS

No.	Name of the Standard	Serial Number	Year of Issue
01	Animal feed ingredients (energy sources) grains	SDS 0186	2009
02	Dry hard animal feed ingredients – granuals	SDS 0190	2002
03	Animal feed ingredients (animal protein sources)	SDS 0180	2002
04	Animal feed (Dry hard feed ingredients)	SDS 0192	2008
05	Silage feed	SDS 1069	2009
06	Animal feed ingredients (green fodder)	SDS 0187	2008
07	Animal feed ingredients (meals and cakes)	SDS 0185	2002
08	Processed concentrated feed used in feeding of goats (sheeps)	SDS 2211	2008
09	Feed concentrates	SDS 2514	2003
10	Poultry feed	SDS 2565	2003
11	Feed additives	SDS 2707	2008
12	Processed feed for ostrich feeding	SDS 3447	2005
13	Processed feed for rabbit feeding	SDS 2855	2010
14	Sunflower meal	SDS 3648	2008
15	Watermelon seed meal	SDS 3650	2008
16	Cotton seed meal	SDS 3652	2008
17	Sesame meal	SDS 3649	2008
18	Hibiscus flower meal	SDS 3647	2008
19	Processed feed used in the feeding of Tilapia fish	SDS 3242	2006
20	Processed feed used for the feeding of the local Sudanese cattle	SDS 3204	2006
21	Processed feed used for the feeding of turkeys	SDS 3446	2006
22	Concentrated feed used for the feeding of goats	SDS 2656	2008

No.	Name of the Standard	Serial Number	Year of Issue
23	Sugarcane molasses	SDS 0695	2007
24	Soya beans meal	SDS 3807	2008
25	Processed feed used for the feeding of camels	SDS 3939	2007
26	Processed feed used for the feeding of horses	SDS 3310	2007

14 METHODS OF ANALYSIS AND SAMPLING

No.	Name of the Standard	Serial Number	Year of Issue
FATS AND OILS			
01	Standard methods for analysis of vegetable oils and animal and vegetable fats	SDS 2212	2003
02	Methods of sampling edible oils and fats	SDS 2401	2009
03	Animal and vegetable oils and fats – Determination of benzo-pyrene using HPLC – inverted stage	ISO 15302/2007 SDS 1132	2009
04	Determination of ash in animal and vegetable oils and fats	ISO 6884/2008 SDS 1122	2009
05	Determination of oxide stability in animal and vegetable oils and fats	ISO 6886/2006 SDS 1156	2009
06	Determination of moisture in edible vegetable oils and fats	SDS 4147	2007
07	Determination of acidity in vegetable oils and fats	SDS 3772	2007
08	Determination of total ash in oil seeds meal	SDS 3773	2007
09	Determination of non-soluble ash in Hydrochloric acid in oilseeds meal	SDS 3771	2007
10	Determination of percentage of non- soluble matter in oilseeds	SDS 3870	2007
11	Preparation of laboratory samples for edible vegetable oils and fats	SDS 4145	2008
12	Determination of melting point for edible vegetable oils and fats	SDS 4148	2008
13	Determination of peroxide value in edible vegetable oils and fats	SDS 4205	2008
14	Determination of colour measurement in edible vegetable oils and fats	SDS 4204	2008
15	Testing of turbidity in edible vegetable oils and fats	SDS 4206	2008
16	Determination of iodine value in edible vegetable oils and fats	SDS 4354	2009
17	Determination of saponification value in edible vegetable oils and fats	SDS 4425	2009
18	Determination of non-soluble matters on raw oils and fats using centrifuge method	ISO 15301/2001 SDS 1040	2009

No.	Name of the Standard	Serial Number	Year of Issue
MEAT AND MEAT PRODUCTS			
21	Determination of polyphosphate in meat and meat products	SDS 2866	2002
22	Methods of bacterial examination of meat and meat products	SDS 3292	2005
23	Requirements of the slaughterhouse laboratory	SDS 2774	2007
24	Determination of total ash in meat and meat products	SDS ISO 36/2998 SDS 3849	2007
25	Determination of chloride content in meat and meat products / part 2 potentiometric method	ISO 1841/7/1996 SDS 3858	2007
26	Determination of nitrite content in meat and meat products (Reference method)	ISO 2918/1975 SDS 3856	2007
27	Determination of nitrate content in meat and meat products (Reference method)	ISO 3091/1971 SDS 3855	2007
28	Determination of moisture contents in meat and meat products (Reference method)	ISO 1442/1995 SDS 874	2007
29	Determination of free fat content in meat and meat products	ISO 1444/1996 SDS 3875	2007
30	Determination of chloride content in meat and meat products / part 1 Volhard method	ISO 1841/1/1996 SDS 3857	2007
31	Measurement of pH of meat and meat products (Reference method)	ISO 2917/1999 SDS 3876	2007
32	Determination of L(+) Glutamic acid content in meat and meat products (Reference method)	ISO 4134/1999 SDS 3918	2007
33	Determination of nitrogen content in meat and meat products (reference method)	ISO 937/1978 SDS 3915	2007
34	Determination of total phosphorus content in meat and meat products (Reference method)	ISO 2294/1974 SDS 3917	2007
35	Determination of total fat content in meat and meat products (Reference method)	ISO 1443/1973 SDS 3916	2007
36	Determination of hydroxyproline content in meat and meat products	ISO 3496/1994 SDS 3814	2007
FRUITS AND VEGETABLES			
37	Determination of soluble solids in fruits and vegetables	ISO 2173/1998 SDS 4516	2009
38	Sampling of fruits and vegetables	ISO 874/1980 SDS 4519	2009

No.	Name of the Standard	Serial Number	Year of Issue
39	Determination of dry matter content by drying under reduced pressure of water content by azeotropic distillation	ISO 1026/1982 SDS 4518	2009
40	Determination of titratable acidity of fruits and vegetables	ISO 750:1998 SDS 4517	2009
MILK AND MILK PRODUCTS			
41	Physical and chemical tests of milk	SDS 0111	2007
42	Chemical methods for testing cheese	SDS 2414	2003
43	Sampling of powdered milk	SDS 0112	2007
44	Sampling of condensed and evaporated milk	SDS 2312	2007
45	Sampling of liquid milk	SDS 1288	2007
46	Sampling of yoghurt and fermented milk	SDS 1289	2007
47	Microbiological examination of powdered milk	SDS 1287	2007
48	Sampling of cheese	SDS 2320	2007
49	Sampling of mother substitute milk	SDS 2512	2009
50	Microbiological examination of liquid milk	SDS 4131	2008
51	Determination of insolubility in powdered milk and it's products	SDS 4447	2009
ANIMAL FEEDING STUFFS			
52	Determination of residues of organ phosphorus pesticides/ gas chromatographic methods	ISO 14182:1999 SDS 392	2007
53	Determination of tryptophan content	ISO 13904:2005 SDS 3797	2007
54	Determination of crude ash	ISO 4055:2007 SDS 5984	2002
55	Determination of vitamin A content/ method using High Performance Liquid Chromatography	ISO 14565:2000 SDS 3811	2007
56	Determination of trypsin inhibitor activity of Soya products	ISO 14902:2001 SDS 3789	2007
57	Determination of potassium and sodium contents . methods using flame/emission spectrometry	ISO 7485:2000 SDS 3812	2007
58	Determination of the contents of calcium, copper, iron, manganese, potassium, sodium and zinc/ method using atomic absorption spectrometry	ISO 6869:2000 SDS 3798	2007
59	Sampling	ISO 6497:2002 SDS 3846	2007
60	Preparation of test samples	ISO 6498:1998 SDS 3858	2007

No.	Name of the Standard	Serial Number	Year of Issue
61	Determination of phosphorus content/ Spectrometric method	ISO 6491:1998 SDS 381	2007
62	Determination of amino acids	ISO 13903:2005 SDS 4056	2008
63	Determination of fat content	ISO 6492:1999 SDS 4057	2008
64	Determination of castor oil seed husks – Microscope method	ISO 5061:2002 SDS 4062	2008
65	Determination of moisture and other volatile matter contents	ISO 6496:1999 SDS 4061	2008
66	Determination of vitamin E content – method using High Performance Liquid Chromatography	ISO 6867:2000 SDS 4063	2008
67	Determination of nitrogen content and calculation of crude protein content – part 2 Block digestion/steam distillation method	ISO 5983/2:2005 SDS 4058/2	2008
68	Determination of nitrogen content and calculation of crude protein content – Part 1 : Kieldahl method	ISO 5983/1:2005 SDS 4058/1	2008
69	Determination of crude fibre content – method with intermediate filtration	ISO 6865:2000 SDS 4060	2008
70	Determination of available lysine	ISO 5510:1984 SDS 374	2007
71	Determination of soluble nitrogen content after treatment with pepsin in dilute hydrochloric acid	ISO 6655:1997 SDS 4224	2009
72	Qualitative determination of zearalenone	ISO 6870:2002 SDS 4270	2009
73	Determination of water-soluble chloride content	ISO 6495:1999 SDS 4318	2009
74	Semi-quantitative determination of Aflatoxin B1 – Thin-layer Chromatographic method	ISO 6651:2001 SDS 4316	2009
75	Determination of free and total gossypol	ISO 6866:1985 SDS 4315	2009
76	Determination of ash insoluble in hydrochloric acid	ISO 5985:2002 SDS 4317	2009
77	Determination of urea content	ISO 6654:1991 SDS 4319	2009
78	Determination of Monensin, Narasin and Salinomycin contents – Liquid Chromatography method using post column	ISO 14183:2005 SDS4394	2009