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Health Canada's Guidance on Safe Cooking and Handling Labelling for Raw Ground Meat and Raw Ground Poultry

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Bureau of Microbial Hazards
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Canada 

Table of Contents

1.0 Purpose	3
2.0 Scope of Application	3
2.1 Scope of Application Rationale	3
2.2 Risk Issues.....	4
3.0 Label Content	5
3.1 Statements	5
3.2 Food Safety Icons.....	5
4.0 Label Format	6
4.1 Label Format Rationale.....	6
5.0 Label Examples	7
5.1 Including Food Safety Icons	7
5.2 Excluding Food Safety Icons	10
6.0 Label Placement	13
6.1 Label Placement Rationale.....	13
7.0 Avoiding Duplication	13
8.0 References	14

1.0 Purpose

This document is intended to provide guidance to the food industry on appropriate safe cooking and handling labelling of raw ground meat and raw ground poultry products intended for sale to consumers. Ultimately, the goal of this guidance is to reduce the number of Canadian illnesses related to improper cooking and handling of these products.

2.0 Scope of Application

This guidance document applies to industry sectors selling ground meat and ground poultry products to consumers in a raw form. This includes grocery retailers, butcher shops, meat and poultry processors, and importers of ground meat and ground poultry products.

The guidance applies to raw meat and raw poultry, whether fresh or frozen, that has been subjected to a comminution process such as grinding, chopping, flaking, mincing, fine texturing and mechanical separation. This includes all species of meat and poultry (e.g., beef, veal, pork, chicken, turkey, bison, venison, pheasant, quail, ostrich, duck, etc.), as well as fresh and frozen uncooked products made from them (e.g., burgers, sausage, sausage meat, meatballs). In all instances in this document, the above mentioned processes and products are intended to be included when the terms 'raw ground meat and raw ground poultry' are used.

This guidance document does not apply to meat by-products, whole muscle cuts, stewing beef, stir-fry strips, kebabs, preserved meat, or any meat product that is ready-to-eat as a result of being fully cooked or fermented.

As the policy intent is to provide consistent and appropriate safety information to consumers, the guidance applies to those products described above which are sold directly to the consumer. Therefore, it applies to both prepackaged¹ and non-prepackaged products sold at retail, but does not apply to products sent to foodservice establishments that will cook the product before serving.

2.1 Scope of Application Rationale

The scope of this guidance document applies to raw ground meat and raw ground poultry products only. In comparison with solid meat cuts subjected to minimum processes, comminution increases the potential for distribution of any pathogens present throughout the product.

¹ "Prepackaged product" means any food that is contained in a package in the manner in which it is ordinarily sold to or used or purchased by a person. [*Food and Drug Regulations, section B.01.001.*](#)

The risk of contamination of raw stewing beef, stir fry strips and kebabs is lower than that of ground meats and the frequency of illnesses linked to these products does not indicate they are a major source of foodborne disease in Canada. Similarly, the frequency of illnesses linked to meat by-products and poultry meat by-products (e.g., liver, kidney, fats) does not indicate they are a major source of foodborne disease and, additionally, they are not routinely sold in raw, ground form. Foods that are packaged on the premises at the request of consumers (e.g., in a butcher shop or at clerk-served meat counters) are not considered to be prepackaged under the *Food and Drug Regulations*. Nevertheless, since raw ground meat and raw ground poultry products sold in these locations pose the same risk to consumers if proper cooking and handling practices are not used, it is recommended they carry the same safe cooking and handling messages.

Although a substantial amount of raw ground meat and raw ground poultry is prepared and served at foodservice establishments, the guidance does not target products provided to restaurants and other commercial food operations. Proper cooking, storage and handling procedures are regular facets of inspections carried out in these facilities. In addition, many Provinces and Territories now require food safety training and certification for all or a portion of food service employees.

2.2 Risk Issues

The Public Health Agency of Canada (PHAC) routinely tracks the number of reported diarrheal illnesses in the Canadian population and estimates that each year roughly one in eight Canadians (or four million people) get sick due to domestically acquired food-borne diseases (Thomas *et al.*, 2013). Reports show that *Campylobacter* spp. are the cause of the highest number of cases, followed by *Salmonella* spp., *Yersinia enterocolitica*, and *Escherichia coli* O157:H7 (Thomas *et al.*, 2013). While the incidence of *E. coli* O157:H7 is lower than *Campylobacter* spp. and *Salmonella* spp., the severity of illness associated with this pathogen can be much higher. All of these organisms are known to be associated with raw meats and raw poultry.

E. coli O157:H7 is a particularly virulent strain of verotoxigenic *E. coli* (VTEC) that is found most often in ground beef and can be the cause of an illness commonly referred to as “hamburger disease”. The infectious dose is thought to be very low (approximately 10 cells), and the resulting illness can be very severe (PHAC, 2011). Some people who become infected with *E. coli* O157:H7 or other strains of VTEC experience no symptoms, while others suffer very severe adverse effects. Most individuals will experience mild to severe diarrhea, with bloody stools (haemorrhagic colitis) and abdominal pain. In very severe cases, individuals may develop a condition referred to as haemolytic uremic syndrome (HUS), which can lead to permanent loss of kidney function and can be fatal in some cases.

All known species of *Salmonella* are pathogenic to humans. The infectious dose can be as low as 15 – 20 cells depending on the age and health of the host and strain differences (D'Aoust and Maurer, 2007). The symptoms of salmonellosis include abdominal pain, diarrhea, nausea and vomiting. Dehydration, especially among the young, the elderly and those with compromised

immune systems, can be severe, and the person may become ill enough to require hospitalization.

Campylobacter spp. are an important cause of diarrheal illnesses worldwide and have an infectious dose of approximately 500 organisms (PHAC, 2011). *Campylobacter jejuni* is the most common type of *Campylobacter* spp. associated with human illness, accounting for 97% of all *Campylobacter* spp. infections in Canada in 2008 (PHAC, 2009). The majority of campylobacteriosis cases include symptoms such as diarrhea, abdominal pain, fever, nausea and/or vomiting.

The pathogenic bacteria found on the carcasses of meat and poultry are often found in the ground product derived from those carcasses. In whole muscle cuts, the pathogen remains on the surface and is more readily killed during the cooking process. The comminution process increases the potential for distribution of pathogens within the product, thereby increasing the risk to consumers if the product is not properly handled and cooked to a safe internal temperature.

3.0 Label Content

3.1 Statements

Health Canada recommends including the following five statements on the Safe Cooking and Handling Label. The first statement is a general notice to the consumer regarding the heightened risk presented by improper cooking or mishandling of raw ground meats and raw ground poultry. The next four statements are presented in an order that follows the steps a consumer takes when preparing raw ground meat and raw ground poultry, and gives associated guidance on critical food safety practices at each step:

1. "Raw ground meat and raw ground poultry may contain bacteria that could cause illness if mishandled or cooked improperly. Do not consume any portion raw."
2. "Keep refrigerated or frozen. Thaw in refrigerator or microwave. Separate raw meats from ready-to-eat foods."
3. "Cook to a safe internal temperature - ground meat to 71°C (160°F), ground poultry to 74°C (165°F)."
4. "Thoroughly wash working surfaces, utensils and hands after contact with raw ground meat or raw ground poultry."
5. "Refrigerate leftover cooked food within 2 hours."

3.2 Food Safety Icons

Food safety icons may be used in connection with the statements appearing on the safe cooking and handling label in order to reinforce consumer recognition and uptake. The following are

icons that are recommended by Health Canada, although others are acceptable provided they convey a comparable message.

- A refrigerator to represent the need to keep food refrigerated or frozen.
- A thermometer to represent the need to cook to a safe internal temperature.
- The international handwashing symbol to represent the need to properly wash surfaces and hands.
- A clock to represent the need to refrigerate leftover food within 2 hours.

4.0 Label Format

The label format recommended by Health Canada consists of the following elements:

- The heading: “**SAFE HANDLING AND COOKING INSTRUCTIONS**” displayed in bold type and capital letters.
- Colour contrast that is the visual equivalent of 100% solid black type on a white background or on a uniform neutral background with a maximum 5% tint of colour;
- Characters in a single standard sans serif font that is not decorative, in not less than 6 point type and not less than 9 point leading;
- Characters never touch each other or the rules and the individual statements appear on separate lines of type, unless separated by the corresponding icon;
- In the case of prepackaged products, information oriented in the same manner as other information appearing on the label.

4.1 Label Format Rationale

During the development of the nutrition labelling section of the *Food and Drug Regulations* (2002), consultations were conducted with literacy experts, consumer advocates and the design and packaging industry. These consultations confirmed that when multiple designs are used between different brands and/or products, consumers often have difficulty finding and understanding information. A consistent standardized format for safe cooking and handling messages would greatly improve legibility and prominence of the information, thereby potentially increasing its effective use.





The presence of a standard label format on raw ground meat and raw ground poultry in the Canadian market would allow Health Canada and other organizations to structure consumer education campaigns to reinforce and complement the safe cooking and handling messages. This is currently difficult due to the multiple formats being used.

5.0 Label Examples

With respect to the use of bilingual vs. unilingual versions, industry is encouraged to apply the labels in accordance with section B.01.012 of the *Food and Drug Regulations*², though this section applies specifically to mandatory labelling provisions.

5.1 Including Food Safety Icons

i) Bilingual, Horizontal

SAFE HANDLING AND COOKING INSTRUCTIONS		RÈGLES POUR LA MANIPULATION ET LA CUISSON SÉCURITAIRES
Raw ground meat and raw ground poultry may contain bacteria that could cause illness if mishandled or cooked improperly. Do not consume any portion raw.		Les viandes et la volaille hachées crues peuvent contenir des bactéries qui pourraient causer des maladies si elles ne sont pas manipulées ou cuites de façon adéquate. Ne consommer aucune portion crue.
Keep refrigerated or frozen. Thaw in refrigerator or microwave. Separate raw meats from ready-to-eat foods.		Garder réfrigéré ou congelé. Décongeler au réfrigérateur ou au four micro-ondes. Séparer les viandes crues des aliments prêts-à-manger.
Cook to a safe internal temperature—ground meat to 71°C (160°F), ground poultry to 74°C (165°F).		Cuire jusqu'à une température interne sécuritaire : viande hachée à 71 °C (160 °F), volaille hachée à 74 °C (165 °F).
Thoroughly wash working surfaces, utensils and hands after contact with raw ground meat or raw ground poultry.		Bien se laver les mains ainsi que les surfaces de travail et les ustensiles après qu'ils aient touché des viandes hachées ou de la volaille hachée.
Refrigerate leftover cooked food within 2 hours.		Réfrigérer les restes d'aliments cuits dans les 2 heures.

² [Article B.01.012 of the *Food and Drug Regulations*](#)

ii) Bilingual, Vertical

**SAFE HANDLING AND
COOKING INSTRUCTIONS
RÈGLES POUR LA MANIPULATION
ET LA CUISSON SÉCURITAIRES**

Raw ground meat and raw ground poultry may contain bacteria that could cause illness if mishandled or cooked improperly. Do not consume any portion raw.

Les viandes et la volaille hachées crues peuvent contenir des bactéries qui pourraient causer des maladies si elles ne sont pas manipulées ou cuites de façon adéquate. Ne consommer aucune portion crue.



Keep refrigerated or frozen. Thaw in refrigerator or microwave. Separate raw meats from ready-to-eat foods.

Garder réfrigéré ou congelé. Décongeler au réfrigérateur ou au four micro-ondes. Séparer les viandes crues des aliments prêts-à-manger.



Cook to a safe internal temperature—
ground meat to 71 °C (160 °F),
ground poultry to 74 °C (165 °F).

Cuire jusqu'à une température interne sécuritaire : viande hachée à 71 °C (160 °F), volaille hachée à 74 °C (165 °F).



Thoroughly wash working surfaces, utensils and hands after contact with raw ground meat or raw ground poultry.

Bien se laver les mains ainsi que les surfaces de travail et les ustensiles après qu'ils aient touché des viandes hachées ou de la volaille hachée.



Refrigerate leftover cooked food within 2 hours.

Réfrigérez les restes d'aliments cuits dans les 2 heures.

Health Canada's Guidance on Safe Cooking and Handling Labelling for Raw Ground Meat and Raw Ground Poultry

iii) Unilingual English

SAFE HANDLING AND COOKING INSTRUCTIONS

Raw ground meat and raw ground poultry may contain bacteria that could cause illness if mishandled or cooked improperly. Do not consume any portion raw.



Keep refrigerated or frozen.
Thaw in refrigerator or microwave.
Separate raw meats from ready-to-eat foods.



Cook to a safe internal temperature—
ground meat to 71°C (160°F),
ground poultry to 74°C (165°F).



Thoroughly wash working surfaces,
utensils and hands after contact with
raw ground meat or raw ground poultry.



Refrigerate leftover cooked food
within 2 hours.

iv) Unilingual French

RÈGLES POUR LA MANIPULATION ET LA CUISSON SÉCURITAIRES

Les viandes et la volaille hachées crues peuvent
contenir des bactéries qui pourraient causer des
maladies si elles ne sont pas manipulées ou cuites de
façon adéquate. Ne consommer aucune portion crue.



Garder réfrigéré ou congelé. Décongeler
au réfrigérateur ou au four micro-ondes.
Séparer les viandes crues des aliments
prêts-à-manger.



Cuire jusqu'à une température
interne sécuritaire : viande hachée
à 71 °C (160 °F), volaille hachée à
74 °C (165 °F).



Bien se laver les mains ainsi que
les surfaces de travail et les ustensiles
après qu'ils aient touché des viandes
hachées ou de la volaille hachée.



Réfrigérer les restes d'aliments cuits
dans les 2 heures.

5.2 Excluding Food Safety Icons

i) Bilingual, Horizontal

Safe Handling And Cooking Instructions	Règles pour la manipulation et la cuisson sécuritaires
Raw ground meat and raw ground poultry may contain bacteria that could cause illness if mishandled or cooked improperly. Do not consume any portion raw.	Les viandes et la volaille hachées crues peuvent contenir des bactéries qui pourraient causer des maladies si elles ne sont pas manipulées ou cuites de façon adéquate. Ne consommer aucune portion crue.
<p>Keep refrigerated or frozen. Thaw in refrigerator or microwave. Separate raw meats from ready-to- eat foods.</p> <p>Cook to a safe internal temperature— ground meat to 71°C (160°F), ground poultry to 74°C (165°F).</p> <p>Thoroughly wash working surfaces, utensils and hands after contact with raw ground meat or raw ground poultry.</p> <p>Refrigerate leftover cooked food within 2 hours.</p>	<p>Garder réfrigéré ou congelé. Décongeler au réfrigérateur ou au four micro-ondes. Séparer les viandes crues des aliments prêts-à-manger.</p> <p>Cuire jusqu'à une température interne sécuritaire : viande hachée à 71 °C (160 °F), volaille hachée à 74 °C (165 °F).</p> <p>Bien se laver les mains ainsi que les surfaces de travail et les ustensiles après qu'ils aient touché des viandes hachées ou de la volaille hachée.</p> <p>Réfrigérer les restes d'aliments cuits dans les 2 heures.</p>

Health Canada's Guidance on Safe Cooking and Handling Labelling for Raw Ground Meat and Raw Ground Poultry

ii) Bilingual, Vertical

Safe Handling And Cooking Instructions Règles pour la manipulation et la cuisson sécuritaires
<p>Raw ground meat and raw ground poultry may contain bacteria that could cause illness if mishandled or cooked improperly. Do not consume any portion raw.</p> <p>Les viandes et la volaille hachées crues peuvent contenir des bactéries qui pourraient causer des maladies si elles ne sont pas manipulées ou cuites de façon adéquate. Ne consommer aucune portion crue.</p>
<p>Keep refrigerated or frozen. Thaw in refrigerator or microwave. Separate raw meats from ready-to-eat foods.</p> <p>Garder réfrigéré ou congelé. Décongeler au réfrigérateur ou au four micro-ondes. Séparer les viandes crues des aliments prêts-à-manger.</p>
<p>Cook to a safe internal temperature— ground meat to 71°C (160°F), ground poultry to 74°C (165°F).</p> <p>Cuire jusqu'à une température interne sécuritaire : viande hachée à 71 °C (160 °F), volaille hachée à 74 °C (165 °F).</p>
<p>Thoroughly wash working surfaces, utensils and hands after contact with raw ground meat or raw ground poultry.</p> <p>Bien se laver les mains ainsi que les surfaces de travail et les ustensiles après qu'ils aient touché des viandes hachées ou de la volaille hachée.</p>
<p>Refrigerate leftover cooked food within 2 hours.</p> <p>Réfrigérez les restes d'aliments cuits dans les 2 heures</p>

Health Canada's Guidance on Safe Cooking and Handling Labelling for Raw Ground Meat and Raw Ground Poultry

iii) Unilingual English

Safe Handling And Cooking Instructions
Raw ground meat and raw ground poultry may contain bacteria that could cause illness if mishandled or cooked improperly. Do not consume any portion raw.
Keep refrigerated or frozen. Thaw in refrigerator or microwave. Separate raw meats from ready-to-eat foods.
Cook to a safe internal temperature—ground meat to 71°C (160°F), ground poultry to 74°C (165°F).
Thoroughly wash working surfaces, utensils and hands after contact with raw ground meat or raw ground poultry.
Refrigerate leftover cooked food within 2 hours.

iv) Unilingual French

Règles pour la manipulation et la cuisson sécuritaires
Les viandes et la volaille hachées crues peuvent contenir des bactéries qui pourraient causer des maladies si elles ne sont pas manipulées ou cuites de façon adéquate. Ne consommer aucune portion crue.
Garder réfrigéré ou congelé. Décongeler au réfrigérateur ou au four micro-ondes. Séparer les viandes crues des aliments prêts-à-manger.
Cuire jusqu'à une température interne sécuritaire : viande hachée à 71 °C (160 °F), volaille hachée à 74 °C (165 °F).
Bien se laver les mains ainsi que les surfaces de travail et les ustensiles après qu'ils aient touché des viandes hachées ou de la volaille hachée.
Réfrigérer les restes d'aliments cuits dans les 2 heures.

6.0 Label Placement

Products prepackaged in a film-wrapped tray, such as those commonly found in retail meat counters, should display the label on the principal display panel³.

Products that are prepackaged in a package other than a film-wrapped tray, such as boxed items, should have the label positioned anywhere on the available display surface², but in close proximity to any cooking instructions that also appear on the label.

To provide maximum flexibility, products packaged at the consumer's request (e.g., clerk served) may have the label placed anywhere on the visible package surface.

6.1 Label Placement Rationale

The placement of safe cooking and handling labels is an important part of providing a prominent and consistent message to consumers. To be effective, the messages should be visible at the time of purchase in the store, and during preparation at home.

Because film-wrapped trays have the potential to leak raw juices when the package is turned over, there is an increased potential for contamination of surfaces and other foods if labels are placed on the bottom or sides of these containers. While processes are being used by the food industry to limit the potential for leaks to occur, consumers do not routinely turn over film-wrapped trays to view product information. Placement of the label anywhere other than the principal display panel on film-wrapped trays creates a strong potential that the message will be overlooked.

For products that are packaged in containers other than film-wrapped trays (e.g., boxes, tubes, etc.), consumers are accustomed to looking for cooking information on package surfaces other than the principal display panel.

7.0 Avoiding Duplication

Many meat and poultry product labels provide cooking instructions, but lack other safe handling information. There is no need to include a cooking statement on the safe cooking and handling label if existing cooking instructions on the label are complete. The cooking statement is considered complete in cases where, when followed, the meat or poultry portion of the product will reach an internal temperature of greater than or equal to 71°C for ground meat and greater than or equal to 74°C for ground poultry. The existing cooking instructions should contain a time/temperature relationship (i.e., cook at X°C for Y minutes). Health Canada does not

³ [Food and Drug Regulations, Section B.01.001](#)

consider statements such as 'cook on BBQ at high heat' to be sufficient to negate the need for a statement recommending an appropriate internal temperature be reached.

Similarly, many existing product labels have a 'keep refrigerated' or 'keep frozen' statement, which would negate the need for a duplicate refrigeration statement as part of the safe handling label. In both of the cases above, the remaining portions of the safe cooking and handling label should be applied.

8.0 References

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