



Salmonella detection in matrix shellfish

Analysis of live bivalve molluscs

The procedure to be followed for the detection of *Salmonella* spp. in live bivalve molluscs is EN ISO 6579-1:2017/A1:2020. Follow the parts of this EN ISO document for detection of *Salmonella* in food samples. This method is suitable for analysis of raw and cooked shellfish.

For the preparation of the test samples, reference is made to EN ISO 6887-3:2017/A1:2020. Further details on sample transport, storage and sample preparation are described below.

Sample transport and receipt

Samples of bivalve molluscs should be packed immediately after sampling in such a way that the shellfish reach a temperature between 0 °C and 10 °C within 4 hours and maintain this temperature for at least 24 hours. Samples must be received at the laboratory in an intact food grade plastic bag with a temperature between 0 °C and 10 °C. For samples where less than 4 hours have passed between sampling and arrival at the laboratory, the internal air temperature should be less than the starting temperature at time of sampling. Samples should be regarded as unsatisfactory if on receipt at the laboratory the sample is frozen, the container is leaking, the shellfish are covered in mud or immersed in water or mud/sand.

Sample selection

Discard all dead and damaged shellfish. Select shellfish that are healthy and alive according to the following points:

- Movement of any kind of the shellfish flesh upon touching
- Shellfish open and close of their own accord
- Tapping on the shell causes closing or movement
- Tightly closed shellfish

Select the appropriate number, but at least 10 individual animals depending on the species (See Appendix 1). Mud and sediment should be removed prior to opening by rinsing or scrubbing under cold, running tap water of potable quality. Shellfish should not be re-immersed in water as this may cause them to open.

References

EN ISO 6579-1:2017/A1:2020. Microbiology of food chain – Horizontal method for the detection, enumeration and serotyping of *Salmonella* – Part 1: Detection of *Salmonella* spp. – Amendment 1: Broader range of incubation temperatures, amendment to the status of Annex D, and correction of the composition of MSRV and SC. International Organization for Standardization, Geneva.

EN ISO 6887-3:2017/A1:2020. Microbiology of the food chain – Preparation of test samples, initial suspension and decimal dilutions for microbiological examination – Part 3: Specific rules for the preparation of fish and fishery products. – Amendment 1: Sample preparation for raw marine gastropods. International Organization for Standardization, Geneva.

APPENDIX 1: RECOMMENDED NUMBER OF INDIVIDUAL LIVE BIVALVE MOLLUSCS AS SAMPLE PORTION

(Table adapted from EN ISO 6887-3:2017/A1:2020)

| Species | | Number |
|--------------------------------|------------------------------|---------------|
| Scientific name | Common name (English) | |
| <i>Pecten maximus</i> | King scallop | 12 to 18 |
| <i>Aequipecten opercularis</i> | Queen scallop | 18 to 35 |
| <i>Crassostrea gigas</i> | Pacific oyster | 12 to 18 |
| <i>Ostrea edulis</i> | Flat oyster | 12 to 18 |
| <i>Mercenaria mercenaria</i> | Hard clams | 12 to 18 |
| <i>Tapes philippinarum</i> | Manilla clam | 18 to 35 |
| <i>Ruditapes decussatus</i> | Grooved carpet shells | 18 to 35 |
| <i>Spisula solida</i> | Thick trough shells | 35 to 55 |
| <i>Mya arenaria</i> | Sand gapers | 12 to 18 |
| <i>Ensis</i> spp. | Razor clams | 12 to 18 |
| <i>Mytilus</i> spp. | Mussels | 18 to 35 |
| <i>Cerastoderma edule</i> | Cockles | 35 to 55 |
| <i>Donax</i> spp. | Bean clams | 40 to 70 |