

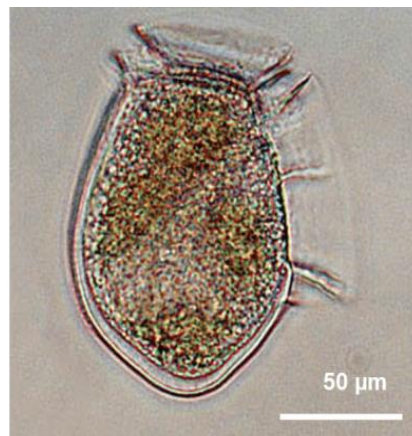
# Diarrheic Shellfish Poisoning (DSP)

Seafood is a good source of protein, and shellfish have been shown to have many [health benefits](#). Farmed UK shellfish are one of the most [sustainable forms of food for us to eat](#), with very low impacts and increasingly recognised benefits to the wider environment.

## What is Diarrheic Shellfish Poisoning (DSP) and its symptoms?

DSP is an illness that can occur when eating seafood, usually bivalve molluscs, that contain biotoxins. DSP usually causes mild gastrointestinal disorders which can last from 2-3 days. Symptoms include nausea, vomiting, diarrhea, abdominal pain, headache, chills and fever. Because the symptoms are relatively mild, cases of DSP often go unreported.

DSP is caused by a group of lipophilic toxins including okadaic acid and dinophysistoxins (collectively known as DSTs). Okadaic acid and dinophysistoxins are most often produced by the phytoplanktonic dinoflagellate *Dinophysis* which, when blooming, can cause red tides. Whilst these toxins do not harm the bivalves, the levels in their tissue will increase until the bloom subsides. The biotoxin is not removed by the depuration process or destroyed by cooking or other processing. It is, therefore, important to ensure that the animals destined for human consumption do not accumulate the biotoxin.



*Dinophysis* spp. (© Marine Scotland)

## Diarrheic Shellfish Poisoning and Shellfish

It is normal for biotoxin-producing algae to be present in our coastal waters. They are usually at very low concentrations and pose no concern for most people that eat moderate amounts of shellfish. However, when the quantities of algae increase in the marine environment, so too can biotoxin-producing species. The more of these algae the bivalves eat, the more okadaic acid they can accumulate.

## Foodborne risk

As a Food Business Operator (FBO) you have a legal duty to ensure the food you place on the market is safe and this includes that it does not contain harmful biotoxins.

Through the official control monitoring, the presence of biotoxin-producing algae in the water is assessed and levels of biotoxin in bivalves is measured. This monitoring helps provide early warning of the possibility of biotoxin contamination. Okadaic acid must not exceed 160µg/kg flesh. When legal regulatory limits are exceeded, the affected areas will be closed, meaning shellfish cannot be harvested until the risk has passed.

End Product Testing (EPT) ensures harvested bivalves are regularly tested for the presence of biotoxins, and the official control monitoring results provide an indication of when increased EPT is required. This helps demonstrate compliance with legal obligations, can add value to the product and may provide additional control over when bivalves are harvested and sold.

**Always remember - If there is a risk of shellfish becoming contaminated, you must take appropriate steps to ensure that any placed on the market are safe. Effective end-product testing to ensure food safety is absolutely essential.**