



Avoiding Sulfite Abuse

LOUISIANA FISHERMEN OFTEN USE SULFITE (metabisulfite, sodium bisulfite) to prevent black spot, or melanosis, from developing in shrimp. Known as dip or powder, sulfite can be very effective when used properly—soon after shrimp are harvested and rinsed, at the proper dip solution and soak time. However, using sulfites incorrectly can create a health risk both for consumers and for shrimpers.



Sulfites can cause an allergic reaction in some people (allergen), so the Food & Drug Administration (FDA) requires a statement on the shrimp package label that the product contains sulfites. To prevent chemical abuse, the FDA has a limit of 100 ppm (parts per million) for residual sulfite in shrimp—anything over that limit is not allowed for sale or consumption.

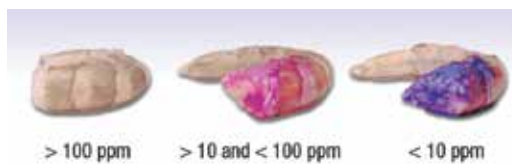
One of the most serious risks of using too much sulfite is the production of hydrogen sulfide gas, which can be lethal in a confined space such as the hold. For consumers, abused shrimp may appear translucent, glassy, and plump, have a slippery texture, and are hard to cook.

COMMON WAYS SULFITE IS ABUSED

- **Sprinkling the powder directly on the shrimp.** This doesn't cover well, can cause shrimp to have pitted or gritty shells, and certain areas may then be over 100 ppm.
- **Mixing the sulfite in a garden sprayer to apply.** This results in uneven coverage, with some shrimp getting too much or too little, and is hard to maintain 1.25% solution.
- **Re-dipping shrimp to bleach them back out.** Could produce too-high concentrations of sulfite, as well as causing yellowing on the underside of shrimp.
- **Incorrect mixing, especially mixing until you smell it.** This definitely results in high levels of sulfite that could be over the legal limit.

Experimentally, Louisiana Sea Grant has re-dipped shrimp to get rid of blackspot. Even at a 50% strength solution, this caused the shrimp to be over 100 ppm.

For a fact sheet on preventing black spot, and other shrimping best practices, visit LaFisheriesForward.org/fisheries/shrimp



Other options to prevent black spot:

Alternative products, such as EverFresh® (powder) and Prawnfresh™ (liquid), have entered the market to replace sulfite treatments. These products use a compound derived from kiwi fruit to reduce black spot development. This allows for producing "sulfite free" shrimp, which is a draw for many consumers.

TESTING SULFITE LEVELS

There are now easy color change kits that allow quick identification of shrimp over 100 ppm. For example, the ALERT (Neogren) test for sulfites can be done anywhere. After applying one drop of two different test solutions, the color change indicates the sulfite level. No equipment is necessary.

PROPER SULFITE LEVELS

A 1.25% solution is recommended to ensure shrimp meat stays below 100 ppm. This would be 2.5 lbs. of sodium bisulfite powder in 25 gallons of water. Shrimp should be dipped for one minute, and the solution should be replaced every 500 lbs of shrimp.

