8.2. Mercury,

Which contaminates freshwater and marine mammal tissue, is increasing at a startling rate in some parts of the world? Mercury's effect on the nervous system and intelligence is well documented. Recent findings suggest that the immune systems of some cetaceans, particularly beluga whales, are exceptionally sensitive to mercury. The primary way humans are exposed to methyl mercury, an organic form of mercury, is by eating fish. One of the primary health concerns is for pregnant and nursing women, or women who may become pregnant, as mercury can harm a developing child. One study, for instance, found neuropsychological deficiencies in children who had higher levels of mercury in their cord blood sample, including deficiencies in:

- Language
- Memory
- Attention
- Motor function
- Visual-spatial functions

Recent studies have also found a connection between increased mercury levels and heart disease. Further, while the omega-3 fatty acids in fish are known to be protective of the heart, research suggests that mercury may counteract these effects.

in this case, the best choice would be to take a high-quality fish oil, which would be purified of mercury and still provide the pregnant with omega-3.

The U.S. Food and Drug Administration (FDA) and the EPA have issued the following fish-consumption guidelines for women of childbearing age, pregnant women, nursing mothers and young children:

- Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they contain high levels of mercury.
- Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury.
- Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, Pollock, and catfish.
- Another commonly eaten fish, albacore ("white") tuna has more mercury than canned light tuna. So, when choosing two meals of fish and shellfish, it may eat up to 6 ounces (one average meal) of albacore tuna per week.
- Check local advisories about the safety of fish caught by family and friends in the local lakes, rivers, and coastal areas. If no advice is available, eat up to 6 ounces (one average

meal) per week of fish you catch from local waters, but don't consume any other fish during that week.

8.3. Organ tin (organic tin) compounds

Tin concentrations of vegetables, fruits and fruit juices, nuts, dairy products, meat, fish, poultry, eggs, beverages, and other foods not packaged in metal cans are generally less than 2 parts per million (ppm) (1 ppm = 1 part of tin in a million parts of food by weight). Tin concentrations in pastas and breads have been reported to range from less than 0.003 to 0.03 ppm. It can be exposed to tin when eat food or drink juice or other liquids from tin-lined cans. Canned food from lacquered tin-lined cans contains less than 25 ppm of tin since the lacquer prevents the food from reacting with the tin. Food from unlacquered tin-lined cans contains up to 100 ppm of tin since the reaction of the food with the can causes some of the tin to dissolve in the contents of the can. Greater than 90% of tin-lined cans used for food today are lacquered. Only light colored fruit and fruit juices are packed in unlacquered tin-lined cans, since tin helps maintain the colour of the fruit. Tin concentrations in food also increase if food is stored in opened cans. Stannous fluoride, a tin-containing compound, is added to toothpaste.

8.4. Plastics and plastic components,

Such as bottles and packaging that until recently were considered inert, are now recognized as having characteristics that make them biologically active. In the laboratory, several of these globally dispersed compounds undermine the development of the reproductive tract in the offspring of pregnant mice fed exceedingly low doses. As it stands today, it is impossible not only during production but also in everyday life to prevent the population from coming into contact with plastics. In any case, approximately 70 to 80% of food is packaged in various polymeric materials (PM).ismanu factured by polymerization or polycondeustation of moreUnfortunately, PM appears to be a potential source of the release of chemicals into the environment: they may have a variety of effects on human health as a consequence of'water, air, or skin contamination. The principal hazardous factor associated with the use of PM remains the possible contamination of food. The absence of acute poisonings with fatal outcome does not prove the safety of synthetic packaging materials. Nevertheless, it must be remembered that we do not completely realize the real contribution of PM to the actual contamination of food. It is true that pM ingredients do not act like pesticides (or a variety of other highly bioactive substances), and one can hardly expect immediate and pronounced clinical manifestations of their toxic action. The occurrence of acute toxicity due to pM used in contact with food and drinking water is most unlikely, since only trace quantities of toxic substances are likely to migrate. However, it would be a great underestimation to consider PM ingredients (indirect food additives) as presenting no real public health threat. It is well known that chronic effects may be observed as the result of repeated ingestion of' a number of small doses, each in itself insufficient to cause an immediate acute reaction but in the long term having a cumulative toxic effect. Thus, PM and other widely used chemicals have introduced a problem of protracted action of low concentrations of chemicals upon human health. It is known that food contact applications are numerous and include the use of plastics, cellulose, paper, aluminum foil, glass, rubber, printing inks, and coatings. PM, in particular, is widely used in contact with foodstuffs, namely, in food processing equipment, food utensils, and as food packaging.