What is Bisphenol A: Bisphenol A (BPA) is a chemical that is mainly used in combination with other chemicals to manufacture plastics and resins.

It is a major component of rigid polycarbonate plastics and epoxy-resin coatings. Polycarbonate is commonly used in the food industry for water and soft drink bottles and can also be used to manufacture infant feeding bottles. Epoxy resins are used as protective linings for metal food cans, wine storage vats and other liquid containers.

BPA has been used in packaging for food and beverages for many years and some scientific studies have shown that under certain conditions BPA can migrate into food products.

Why is BPA used for food contact materials: BPA based polycarbonate and epoxy resins are durable and light weight. They offer high impact resistance, can sustain numerous sanitation methods and are heat resistance.

Occurrence in Foods: BPA can be present in foods as a result of migration from epoxy-resin coatings used to line metallic food cans and on metal closures for glass jars and bottles.

The other main source is polycarbonate plastic bottles and containers used to package a wide range of products such as water, soft drinks and milk.

It has been reported in various canned food and drink products including canned fruit, vegetables, coffee, tea, infant formula concentrate and sake.

Effects on Health:

Based on animal studies, high doses of BPA (hundreds of times above the TDI) are likely to cause adverse effects in the kidney and liver. BPA is also likely to have effects on the mammary glands of rodents. How these effects are caused (the ‘mechanism of action’) is not clear.

Possible effects of BPA on the reproductive, nervous, immune, metabolic and cardiovascular systems, as well as in the development of cancer are not considered likely at present but they could not be excluded. They add to the overall uncertainty about BPA-related hazards.

How to reduce BPA in processing:

Manufacturers can source cans and containers that contain lower levels of BPA or are BPA free.

Manufacturers of food containers should provide instructions to the consumer for the intended use of the product including temperature specifications and restrictions on use.

It is important to note that for canned food products, alternatives should not permit bacterial or metallic contamination of the contents and should not give rise to other safety concerns. The use of alternatives may also reduce the final shelf-life of a canned product, if the resistance of the alternative is lower than that of an epoxy-resin-based lining.
## Regulation (EU) 2018/213 (Regulate BPA in certain food contact materials)

<table>
<thead>
<tr>
<th>Item</th>
<th>Specific Migration Level (SML) mg/kg</th>
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<tbody>
<tr>
<td>Food contact plastics</td>
<td>0.05</td>
</tr>
<tr>
<td>Food contact varnished or coated products</td>
<td>0.05</td>
</tr>
<tr>
<td>Food contact varnished or coated materials and articles for young children for food categories under Regulation (EU) 609/2013</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Polycarbonate drinking cups or bottles for infants and young children</td>
<td>Prohibited</td>
</tr>
</tbody>
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<th>Control</th>
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<td>Canned fruit, vegetables, coffee, tea and infant formula</td>
<td>Source packaging materials with lower levels of BPA or BPA free materials</td>
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<td>Stated that BPA poses no serious health risk due to current exposure levels</td>
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## Summary Table

### Occurrences in food
- Canned fruit, vegetables, coffee, tea and infant formula

### Effects on health
- Stated that BPA poses no serious health risk due to current exposure levels
- In animal studies if exposed to high levels it has been said it could affect kidney and liver function and other systems

### Control
- Source packaging materials with lower levels of BPA or BPA free materials
- Manufacturers of food containers should provide instructions for the intended use of the product including temperature specifications and restrictions on use

### Published Risk Assessments
- FDA :: 2014 Updated safety assessment of Bisphenol A (BPA) for use in food contact applications [https://www.fda.gov/downloads/NewsEvents/PublicHealthFocus/UCM424266.pdf](https://www.fda.gov/downloads/NewsEvents/PublicHealthFocus/UCM424266.pdf)
- EFSA’s Panel on Food Contact Materials, Enzymes and Processing Aids (CEP) will re-assess the potential hazards of BPA in food and review the temporary safe level set in EFSA’s previous full risk assessment from 2015. This new assessment should be ready by 2020.
References