

New rules for selling mobile phones

Frequently Asked Questions

As from 1 March 2014, the radiation value (SAR value) of all types of mobile phones (ordinary mobile phones and smartphones) must be indicated by the seller:

- a. at the point of sale and for distance sales, through the internet;
- b. in advertising materials, if other technical specifications are included also.

Manufacturers, importers and distributors offering mobile phones on the Belgian market will have an obligation to communicate the SAR value to their buyers, so that the latter can display it at the point of sale.

Furthermore, a ban is imposed on selling mobile phones designed for children under the age of 7, as well as on advertising aimed at encouraging the use of mobile phones in this age group.

These measures have been introduced in the form of two Royal Decrees, published on 30 August 2013.

- Royal Decree of 30 July 2013 concerning the ban on placing on the market any mobile phones specifically designed for your children;
- Royal Decree of 30 July 2013 concerning the availability of consumer information about the specific absorption rate of mobile phones and concerning the publicity regarding mobile phones.

This document explains what these measures entail and why they were introduced ("what" and "why"). For any practical questions ("how") we kindly refer to the "Practical guide for sellers and distributors".

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I. Measures

1. What are the exact implications of the measures?

Radiation value and sales

The SAR¹ value of mobile phones must be indicated at the point of sale, including distance sales (e.g. via the Internet). A letter A, B, C, D or E must be added to the SAR value as an indication of the category to which it belongs.

- A: $SAR < 0.4 \text{ W/kg}$,
- B: $0.4 \leq SAR < 0.8 \text{ W/kg}$,
- C: $0.8 \leq SAR < 1.2 \text{ W/kg}$,
- D: $1.2 \leq SAR < 1.6 \text{ W/kg}$,
- E: $1.6 \leq SAR \leq 2 \text{ W/kg}$.

In addition a statement about the categories must be provided in a visible and legible way, together with the notice:

"Think about your health – use your mobile phone moderately, make your calls wearing an earpiece and choose a set with a lower SAR value".

The text reads as follows in Dutch, French and German, respectively:

- *"Denk aan uw gezondheid – gebruik uw mobiele telefoon met mate, bel met een oortje en kies voor een toestel met een lagere SAR-waarde (SAR-waarde)";*
- *"Pensez à votre santé – utilisez votre téléphone portable avec modération, privilégiez l'usage d'une oreillette et choisissez un appareil ayant une valeur DAS (SAR) faible";*
- *"Denken Sie an Ihre Gesundheit – Verwenden Sie Ihr Mobiltelefon in Maßen, verwenden Sie ein Headset und wählen Sie ein Gerät mit niedrigem SAR-Wert".*

Radiation value and advertising

The SAR value must be displayed in any advertising for mobile phones (together with the other technical specifications, if provided). It is also mandatory to display the explanation about the A, B, C, D and E categories in relation to the SAR value, together with the health statement (one single mention in the advertising leaflet or on the website – legible and visible).

Ban on selling mobile phones for children

A ban is imposed on mobile phones designed specifically for children under the age of 7.

Ban on advertising promoting the use of mobile phones by young children

Ads promoting the use of mobile phones by young children under the age of 7 are also prohibited, i.e. any advertising in children's programmes on radio and television, on websites, in children's magazines or any other print work, etc., aiming at this target group.

¹ Specific Absorption Rate

2. Why were these measures taken?

Certain studies indicate the possibility of an increased risk of brain cancer from intensive use of mobile phones. For this reason, the International Agency for Research on Cancer (a World Health Organisation agency) has classified electromagnetic fields produced by mobile phones as "*possibly carcinogenic to humans*". Pending the availability of more specific scientific conclusions, the Belgian government has deemed it necessary to take precautionary measures. Although a causal link between mobile phones and brain cancer is as yet unproven, caution is recommended.

Meanwhile, the debate on radiation has taken a legal turn, namely in relation to liability: an Italian court recently ruled in the case of an Italian entrepreneur who stated that his tumour was the result of his excessive mobile phone usage and that consequently, he was entitled to damages. The entrepreneur accused the government of having provided too little information about the health risks involved in the intensive use of mobile phones.

In Belgium the government is carrying out communication actions to encourage the population to make more cautious use of their mobile phones (distributing, updating and reprinting brochures; information on the website www.health.belgium.be; answering questions from citizens; etc.). Still, the Belgian government finds communicating in itself insufficient, since in the case of radiation problems the responsibility may not be placed with the consumer. The new measures aim at complementing and enhancing the policy framework relating to the electromagnetic fields.

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3. What is the purpose of these measures?

The measures aim at allowing consumers to take the radiation value (or SAR-value, see question 4) into account when choosing a mobile phone. Said value, which has to be measured for every mobile phone in the scope of the EU conformity evaluation procedure (when bringing a product to market), is already available on producers' websites and in their technical documentation. Making the value available in the shop makes it easier for the consumer to take it into consideration when deciding on the purchase of a mobile phone.

Prohibiting advertising targeting children under the age of 7 and a ban on mobile phones for children aim at reducing the offer as well as the demand for mobile phones in this category of users. Children come into contact with mobile phones at a very young age. In their lifetime, exposure to radiation from mobile phones will thus be greater than it is for adults at present. This is already a reason for caution, given the classification by the IARC. Moreover, children's heads absorb more radiation from mobile phones than adults' heads (twice as much in the brain and 10 times more for skull bone marrow). The ban on advertising targeting young children aims at reducing the demand for, and the offer of mobile phones in this user category.

Belgium has a mobile phone penetration level of more than 100% (the number of SIM cards in circulation exceeds the number of inhabitants). About 4% of the mobile phone users (400,000) in Belgium² use their phones more than 30 minutes a day (the "risk level" in prolonged use), with or without an earpiece. According to a study performed by OIVO 2011, 'Jongeren en gsm' (Young people and mobile phones) there is a growing trend of mobile phone use among young people: at the age of 12 most young people have a mobile phone (+15% compared to 2009); two out of three 10-year olds have a mobile phone (+21%). Although the mobile phone is used mainly for sending text messages, chatting and other services, it is also used for making phone calls. Only one in five young people follow their parents' advice on call duration and frequency of mobile calls.

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II. Radiation value (SAR value)

4. What is SAR?

SAR (Specific Absorption Rate) is the radiation rating of mobile phones; more specifically, it is the level of exposure of the user to the radio waves generated by a mobile phone. The SAR value indicates the speed at which the energy of radio waves is absorbed by the human body. There are different SAR values for the head and for the body.

In Dutch the value is known by the abbreviation SAT (*Specifiek AbsorptieTempo*); the French refer to it as DAS (Débit d’Absorption Spécifique); in German it is called SAR (“Spezifische Absorptionsrate”).

SAR values are known to the manufacturers of mobile phones. After all, manufacturers are obligated to measure the SAR value for each device prior to putting it on the market (to ensure that it does not exceed the limit of 2 W/kg). For mobile phones manufactured outside the European Union the manufacturer may publish more than one SAR value, e.g. an American SAR value in addition to the European SAR value. These values differ because they are measured in different ways. In some cases the information contains a value for the head as well as for the body.

The Royal Decree concerns only the **European SAR value *for the head***: this is the only value that must be specified for selling and promotional purposes.

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5. Does the SAR value correspond to the actual exposure?

The SAR value refers to the maximum exposure that may be produced by the device. The actual exposure may vary. This is comparable to a manufacturer's information on the engine capacity of a car: the car will not deliver at maximum capacity continuously while driving.

² According to a study carried out by the FPS VVVL (Federal Public Service for Health) in collaboration with the Belgian mobile phone operators.

The actual exposure may vary

- 1) because the emission power of a mobile phone varies according to the reception quality. Under optimal reception circumstances, the emission power– and hence the user's exposure to radio waves – is much lower than if reception quality is low. Reception quality itself depends on how close you are to a radio mast, whether any obstacles block the signal (thick walls) and whether the user is in motion (train, car, etc.).
- 2) according to the way in which you use your mobile phone. Exposure is higher if you hold the phone by your ear than if you use an earpiece.
- 3) depending on how efficiently a mobile phone adapts to the reception conditions.

According to statistical research carried out by the IARC, a mobile phone transmits at maximum capacity during 40% of its phone time. The average transmission capacity is half of the maximum capacity. Similar ratios apply to the SAR. Hence the SAR value provides an *indication* of the real exposure of mobile phone users, which is not an exact value that will occur often in practice. Knowing SAR values will make consumers more aware and encourage the purchase of devices with low radiation values.

Note: purchasing a mobile phone with a lower SAR value should not give the consumer the idea to use it for hours on end. The best solution is to make use of an earpiece, especially for long conversations.

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6. Why pay attention to SAR values if an earpiece proves much more effective?

The best thing is to pay attention to both. By opting for a mobile phone with a lower SAR value, you lower your exposure by 3 to 10 times. Using an earpiece makes exposure less by hundreds. If you make a point of *always* using your earpiece, i.e. both for incoming and outgoing calls, you need not buy a mobile phone with a lower SAR value. The same applies when you use your mobile phone only for text messages, and never for making calls.

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7. Which earpiece is better – wired or wireless?

Wired earpieces do not radiate anything, but may absorb the radio waves from the mobile phone and transmit them to the head. Still, exposure to the head is about 10 to 30 times less when using a wired earpiece than when holding the mobile phone to your ear. A Bluetooth earpiece makes contact with your mobile phone wirelessly, and hence transmits radio waves. However, exposure via a Bluetooth earpiece is very limited: 300 to 1000 times less than through a mobile phone that is held directly to the head.

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8. Would it not make more sense to focus on fixed transmission antennas?

The conclusion from the IARC primarily involves mobile phones. According to IARC, studies on incidences of cancer around fixed transmission antennas proved inconclusive.

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9. Why does the Royal Decree not apply to Wi-Fi, DECT telephones, baby phones and other products that transmit radio waves?

In its conclusion the IARC has classified all radio waves as possibly carcinogenic. This reasoning would imply that each and every device transmitting radio waves would have to be subject to the same treatment. However, said conclusion is based mainly on studies involving mobile phones, and to a lesser extent involving wireless home phones (such as DECT).

Mobile phones have the highest emission power and are used frequently. All other devices either are not used close to the head, or produce a much lower exposure due to their lower SAR values.

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10. Could a mobile phone with a lower SAR value generate more exposure than a mobile phone with a higher SAR value?

That could happen from time to time. Mobile phones adapt their emission power to their circumstances. The real exposure can thus vary. In general the average exposure over a longer period of time will be less when using a mobile phone with a lower SAR value than when using one with a higher SAR value.

This is different for mobile phones that can operate via UMTS (the 3G network, the “third generation network”), such as smartphones. The third-generation (3G) technology is much more efficient than 2G. Provided that 3G reception is good, the average emission power of this type of mobile phone is only a small percentage of the maximum value. Consequently, a smartphone with a higher SAR value may yield a lower average exposure rate than an ordinary mobile phone with a lower SAR value. But please note: in the event of bad reception within the 3G network, the mobile phone will switch to the traditional mobile network (2G) yielding a higher exposure.

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11. Why have these measures not been introduced on a European scale?

Europe has not reached that stage yet. At a European level there is currently a limit to the allowed SAR value (2W/kg). It was enforced by law in 1999, based on short-term effects that were known back then. However, it does not take account of a possible long-term effect such as cancer (see the IARC classification). Based on the precaution principle, Belgium has decided not wait before taking action.

12. Do actual radiation levels vary for different types of mobile phones?

Yes, they do. Generally speaking, a mobile phone operating via the 3G network (smartphone) has a smaller average emission power (and hence a lower average SAR value) than an ordinary mobile phone – provided that reception is good.

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13. What is a 'good' SAR value?

The official SAR limit for mobile phones in Europe is 2 W/kg. By putting the CE-mark on a mobile phone the manufacturer testifies that it has been tested and that it meets the European safety standards, including this limit value.

Most values are between 0.1 W/kg and 1.5 W/kg, with an average value of 1 W/kg. Some countries add a separate label for mobile telephones with a lower SAR value. The German eco-label Blaue Engel, for instance, requires a maximum of 0.6 W/kg for qualification.

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14. Are there any specific mobile phone brands with best scores in terms of SAR value?

According to the list of the German public body *Bundesamt für Strahlenschutz* (www.bfs.de), practically every brand has low-radiation mobile phones.

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15. Are 'anti-radiation stickers' effective in reducing exposure?

The effectiveness of these stickers has not been proven in scientific studies.

III. Ban on advertising promoting the use of mobile phones by young children and on selling children's mobile phones.

16. What does this measure entail exactly?

Ads promoting the use of mobile phones by young children under the age of 7 are prohibited, i.e. any advertising in children's programmes on radio and television, on websites, in children's magazines or any other print work, etc., aiming at this target group.

In addition a ban is imposed on selling mobile phones designed specifically for young children.

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17. Which mobile phones for children are banned?

The definition "mobile phones for young children" encompasses any mobile phone that has been made enticing for children under the age of 7, or that has been declared by the manufacturer as specifically designed for this age group.

It includes mobile phones that look like toys due to their playful design, simple operation and minimum set of keys.

Below are a few examples of mobile phones that are now banned:



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18. Which mobile phones for children may still be sold?

The mobile phones shown below may still be sold. They are in fact ordinary mobile phones but with a playful design, made for older children.



The mobile phone for elderly people shown below does not have a playful design, but is still easy to operate and could be used by young children. This mobile phone is also suitable for other users who need a phone that is easy to operate. This mobile phone is not meant for young children and therefore may brought to market.



Selling walkie-talkies for children is allowed: they fall outside the scope of the Royal Decree.

19. Are GPS trackers for children prohibited?

GPS stands for *Global Positioning System*. A GPS tracker is a device which determines its location using satellite navigation and communicates this information to the user.

Some mobile phones are equipped with a GPS system and some GPS trackers also use a SIM card and allow the user to call or be called. Both devices comply with the definition of mobile phone as provided for in the royal decree. They may be sold if they are not intended for children. In other words, if such a product is made appealing for young children (by having a playful design) or if the manufacturer states that the product targets children under the age of 7, it may not be sold on the Belgian market.

Please note that GPS trackers which are not equipped to call with, may still be sold (even if they are intended for children). GPS trackers with SIM card using the GSM network only for geolocation purposes (transmission of coordinates by means of a message) and not for phoning, may also still be sold.

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Image sources: Samsung, Kidstel gsm tracker, Sitcon, KaKatech