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Suffocation risk from small hard sugar balls

BfR Opinion No. 025/2017 of 07 September 2017

The German Federal Institute for Risk Assessment (BfR) assessed the possible health risks of large hard sugar balls back in 2010. The focus was in particular on the size from which the balls (when sucked to a small size) can slide from the oral cavity into the throat under unfavourable circumstances, resulting a blocking of the airways. The critical size for schoolchildren is roughly a diameter of 40 mm, as a hard sugar ball of this size is still too big to be swallowed.

(http://www.bfr.bund.de/en/press_information/2011/08/risk_of_suffocation_for_children_by_hard_sugar_balls-61222.html)

Based on these prior findings, the BfR has now assessed the size at which small hard sugar balls are still large enough that accidental or intentional swallowing can result in blocking of the airways in children from the age of 5. Under certain circumstances, spherical objects can slip to the lowest part of the throat or into the upper esophageal constriction and become lodged there because this area is too narrow for them to pass through. If spherical objects become lodged in this area, this can result in almost complete or total blockage of the airways and therefore to a life-threatening event. Although the probability of such an incident occurring is very low, it is nevertheless relevant due to the potential severe health impairments that can ultimately be fatal.

In the case of children from 5 years of age, a ball diameter of a maximum 14 mm can be assumed to be safe in such a case with a high degree of probability. It can be expected that, at this age, spherical objects with a smooth surface up to this size can pass through the anatomic "bottlenecks" in the throat without risk.

The BfR has not assessed the risk to younger children resulting from specific sizes of the hard sugar balls. Children under the age of 5 should generally refrain from consuming any spherical sweets that cannot be crushed by the first bite.

		BfR Risk Profile: hard sugar balls > 14 mm (Opinion No.025/2017)			
A Affected group	Children 				
B Probability of health Impairment due to consumption of hard sugar balls > 14 mm	Practically impossible	Improbable	Possible	Probable	Certain
C Severity of health impairment due to consumption of hard sugar balls > 14 mm	No impairment	Slight impairment	Moderate impairment	Serious impairment [irreversible]	
D Validity of available data	High: the most important data is available and there are no contradictions		Medium: some important data is missing or contradictory	Low: much important data is missing or contradictory	
E Controllability by the consumer [1]	Control not necessary	Controllable through precautionary measures	Controllable through avoidance	Not controllable	

Text fields with dark blue background highlighting characterise the properties of the risk assessed in this Opinion (for more details, please see the text of Opinion No. 025/2017 of the BfR of 07 September 2017).

Explanations

The Risk Profile is designed to visualise the risk described in the BfR Opinion. It is not designed to permit risk comparisons. The Risk Profile should only be read together with the Opinion.

[1] – Line E - Controllability by the consumer

The details in the line "Controllability by the consumer" are not designed to serve as a recommendation by the BfR but are of descriptive character.

BUNDESINSTITUT FÜR RISIKOBEWERTUNG (BfR)

You can find more information on hard sugar balls on the BfR website at:

[BfR opinion: Risk of suffocation through hard sugar balls with chewing gum core](#)

[Press information: Risk of suffocation for children by hard sugar balls](#)



BfR "Opinions App"

The full version of this BfR Opinion is available in German at:

<http://www.bfr.bund.de/cm/343/erstickungsgefahr-durch-kleine-hartzucker-baelle.pdf>

About the BfR

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. It advises the Federal Government and Federal Laender on questions of food, chemical and product safety. The BfR conducts its own research on topics that are closely linked to its assessment tasks.

This text version is a translation of the original German text which is the only legally binding version.