

Aslı Ucar / Mustafa Özgür / Serkan Yılmaz

Safety of Aspartame

Literature Review

YOUR KNOWLEDGE HAS VALUE



- We will publish your bachelor's and master's thesis, essays and papers
- Your own eBook and book - sold worldwide in all relevant shops
- Earn money with each sale

Upload your text at www.GRIN.com
and publish for free



Bibliographic information published by the German National Library:

The German National Library lists this publication in the National Bibliography; detailed bibliographic data are available on the Internet at <http://dnb.dnb.de> .

This book is copyright material and must not be copied, reproduced, transferred, distributed, leased, licensed or publicly performed or used in any way except as specifically permitted in writing by the publishers, as allowed under the terms and conditions under which it was purchased or as strictly permitted by applicable copyright law. Any unauthorized distribution or use of this text may be a direct infringement of the author s and publisher s rights and those responsible may be liable in law accordingly.

Imprint:

Copyright © 2017 GRIN Verlag
ISBN: 9783668511811

This book at GRIN:

<https://www.grin.com/document/374590>

Aslı Ucar, Mustafa Özgür, Serkan Yılmaz

Safety of Aspartame

GRIN - Your knowledge has value

Since its foundation in 1998, GRIN has specialized in publishing academic texts by students, college teachers and other academics as e-book and printed book. The website www.grin.com is an ideal platform for presenting term papers, final papers, scientific essays, dissertations and specialist books.

Visit us on the internet:

<http://www.grin.com/>

<http://www.facebook.com/grincom>

http://www.twitter.com/grin_com

SAFETY OF ASPARTAME

Ashı UÇAR¹, Mustafa ÖZGÜR¹, Serkan YILMAZ²

¹Ankara University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Ankara, Turkey

²Ankara University, Faculty of Health Sciences, Department of Midwifery, Ankara, Turkey

1. INTRODUCTION	2
2. ASPARTAME	7
2.1 History	7
2.2 Chemical Properties	10
2.3 Aspartame Usage Rules and Safety Assessment.....	12
2.4 Biochemistry and Metabolism	16
2.5 Toxicological Profile.....	21
2.5.1 Acute Toxicity	24
2.5.2 Sub-Chronic Toxicity.....	29
2.5.3 Chronic Toxicity.....	29
2.5.4 Genotoxicity	35
2.6 Other Studies Related to Aspartame	37
3. CONCLUSION.....	40
4. REFERENCES.....	41

1. INTRODUCTION

Sweeteners are the most discussed among the food additives. Those, used as alternatives to sucrose, are generally referred to as "alternative sweeteners" (Mortensen, 2006). The first registered sweetener was honey (Bright 1999; Weihrauch and Diehl 2004), but as time pasts the common sugar took its place. Artificial sweeteners came into use, because diabetes and obesity rate was increased due to use of common sugar. The first used artificial sweetener was saccharin (Bright 1999; Weihrauch and Diehl 2004). Aspartame and cyclamate were used following the saccharin.

They are produced to be used instead of sugar, have the same taste as sugar, are not considered as harmful to health, have low calorie and/or without calories (Position of the American Dietetic Association, 2004). Increasing with the prevalence of obesity, individuals wishing to reduce energy intake have talented particularly to energy-free sweeteners and low-calorie products (World Health Organization, 2008). The products made with sweeteners are equivalent to the product made with sugar being preferred by producers and consumers (Blackburn and et al., 1997). During the past two decades, worldwide low-calorie food consumption has considerably increased, thus leading to an increase in health concerns associated with high intake of synthetic sweeteners (Bergamo et al. 2011).

"Intense sweeteners" are the sweeteners that produce the required effect in minute quantities, because of their intense sweetness. To emphasize that most of them