



Food Intolerance Network

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Proposal P298 Benzoate and Sulphite Permissions in Food

The Food Intolerance Network wishes to make a submission on the above Proposal. We are an organisation with over 3,000 members and an active consumer advocacy website that has recorded over 500,000 hits, so we can fairly claim to represent a large constituency who know they are affected by food additives.

There are two key issues which we wish to raise.

First, we are critical of the 21st Australian Total Diet Study (21st ATDS) since its findings are based on food consumption in 1995 (!), before the explosion of dried-fruit based snacks for kids. Therefore, despite the calming conclusions about “very conservative” and “overestimation” and “margin of safety”, the results **seriously underestimate actual consumption** in our view. For instance, the Food Intolerance Network has reliable reports of preschoolers who were consuming twenty times the ADI for sulphites, and suffering the health consequences in asthma or cough-variant asthma.

Consider a child weighing 20kg who eats 100g of dried apricots (just half a packet) containing the maximum permitted sulphite level of 3000ppm (as some do, see <http://health.act.gov.au> food survey report 1996-97). Their intake will be 15mg per day, 21 times the highest group ADI set by JECFA. Any teacher or mother can tell you that these levels of consumption are entirely realistic.

Second, the 21st ATDS still manages to conclude that “there is currently no clinical evidence that high dietary exposure to sulphites and benzoates can cause adverse effects in humans”. We are frankly amazed that FSANZ can claim such a thing and attach the scientific evidence which absolutely refutes that conclusion (Attachment A).

See also references and abstracts under Benzoates and Sulphites at <http://www.fedupwithfoodadditives.info/information/references.htm>

There are also many observations, the very basis of science, of the adverse effects of sulphites and benzoates. See

<http://www.fedupwithfoodadditives.info/stories/storyasthma1.htm>

And you will doubtless have seen Jamie Oliver at Wingate Primary School in the UK being amazed that the school has not needed an asthma pump since he changed their diet - "you just change their food and then you don't have to be ramming all those chemicals and drugs down them."!

As you may know, we remain very critical of the fact that FSANZ does not test any additives for their effects on children's learning and behaviour before approval, nor does it accept reports of such after approval. Given that 25% of presentations at Royal Children's Hospital outpatients in 2004 were for learning and behaviour problems, FSANZ's continuing approach to approval criteria looks very narrow and out-of-step with contemporary evidence. Looking for "gastric lesions" may be easy observation, but we believe it is poor science and does not adequately reflect either the public interest or real health risks.

The experience of our Network is that present levels of these substances in our food supply present a daily public health and safety risk, so we would certainly support the immediate commissioning of a full risk assessment for benzoates and sulphites. We suggest the following changes to the Food Standards Code:

1. **A reduction in the maximum permitted sulphite level in dried fruits from the current level of 3000 mg/kg**, which is 50% higher than most countries. Candied fruit is also a concern. There is also a surveillance and monitoring issue, as much dried fruit eaten in Australia and New Zealand is imported from countries with less than trustworthy food standards.
2. **Removal of all sulphites from meat.** The USA achieved this in 1959 following public health concerns, particularly the reduction in the vitamin thiamine in sulphited products, so it is a reasonable action to take in terms of public health. Concerning sulphites, we brought to FSANZ attention the scandalous illegal use of sulphites in mince meat (<http://www.fedupwithfoodadditives.info/support/FSsulphite2.pdf>) where an independent survey by members found 43% of mince contained sulphites. Detection of sulphites were more likely to be reported than were absence of sulphites, so this cannot be considered a representative survey, but given that mince is meant to contain **zero** sulphites there is clearly an enforcement issue.
3. **Label declaration of all added sulphites**, whether greater than 10ppm or not. Many of our members are gluten-free, exposing them to a range of substitutes which currently contain sulphite residues from processing, such as maize, potato and tapioca starches. Sulphite is rarely declared on the labels of such products yet many of our

members react with asthma and/or eczema. Fruit and vegetable products derived from bulk materials for manufacturing purposes also often contain sulphite carried over, which is not declared but which causes reactions in sensitive individuals.

4. In more general terms, we believe that health organisations and medical experts should work with the food industry to reduce the use of all asthmagenic additives, especially sulphites, in the foods that children eat.

Finally, in preparing this submission we consulted with our members, most of whom will avoid these additives as a matter of course and so are unlikely to be able to report current problems. There was of course strong support for us making a submission, but I'll let two of them have the last word to show you the human face of FSANZ decisions:

"I have one child whom I am doing this diet for however when it came to testing benzoates (in lemonade) the whole family participated. I was very surprised by the results. The 4 of us reacted very differently to the test, however we all DID react. I was very short tempered and impatient, my 16 year old become tearful and kept breaking down in the middle of the shopping centre, 14 year old with ADHD and ODD become extremely annoying and kept making noises and totally disobedient. My 6 Y/o become confused and totally deaf (or ignorant). As I said I was extremely surprised by all our reactions and when asked if they would like to do the test again they all say no. All these reacts occurred after having only 2 glasses each of lemonade." – mother by email 7/9/05.

"I react very badly to all sulphites - in concentrations of less than 10mg/L. I feel that they should have to list if the product has sulphites at all..... and if they are not happy with that (as it is in many many other additives like beverage whitener) then the limit should be dropped to 2mg/L detectable sulphites to be listed on the label. It would definitely reduce how many times a year I am affected by sulphites - even though I am extremely cautious in avoiding them (to the point that I try to prepare all my own food and rarely try new products), I still have serious reactions around 3 to 4 times a year (enough to miss two to three days of work at a go)." - mother by email 5/9/05.

Yours faithfully

Dr Howard Dengate FAICD

ATTACHMENT A

Food chemicals and asthma

There is now a considerable body of scientific evidence that food chemicals contribute significantly to asthma especially in children. The ultimate goal of asthma research should be to prevent asthma, not just relieve its symptoms¹.

- The first report of an association between food additives and asthma appeared in 1958, when six cases of asthma in children were attributed to artificial colour² and in 1967, a case of severe intractable asthma was attributed to tartrazine (102) in the patient's medication and a yellow-coated vitamin tablet³. Since then, additives in food, vitamins and medications have been associated with asthma exacerbation frequently and in many countries including Australia^{4,5}, Canada⁶, France⁷, Papua New Guinea⁸, South Africa⁹, Spain¹⁰ and Japan¹¹. Although 'primary exposure in children is through foods', additives in drugs are a source of serious reactions¹². Salicylates are also associated with asthma¹³. By 1976, routine testing of asthmatics for sensitivity to food additives and salicylates was recommended¹⁴.
- Consumption of food additives in Westernised countries has been steadily increasing since the 1960s. According to FDA data, daily per capita production of food dyes in the USA increased from 12 mg in 1955, to 32 mg in 1975, to 47 mg in 1998, a fourfold increase over 4 decades. Increasing intake of food additives makes awareness of the effects of food chemical sensitivity more difficult because in Westernised countries today 'exposure to [food chemicals] is sufficiently frequent to mask any relationship between ingestion and symptoms in susceptible people'¹⁵.
- It is easier to see the effects of diet in a society in transition than in one in which the dietary change to highly processed foods has become firmly established. In Saudi Arabia, a comparison between village children who ate a traditional Arab diet and city children who ate more Western style processed foods showed that eating at fast food restaurants was associated with a 2-3 fold risk of developing asthmatic symptoms¹⁶.
- Evidence shows that standard challenge testing¹⁷ for food chemical sensitivity is likely to miss the majority of responders^{15,18}. In a study which compared challenge testing with and without a comprehensive four-week elimination diet to obtain a low and stable baseline, the use of the Royal Prince Alfred Hospital elimination diet was associated with a threefold increase in the number of sulphite sensitive asthmatics identified by challenge¹⁸.

- Sulphite preservatives are the additives most likely to affect asthmatics. The World Health Organisation recently upwardly revised its estimate of the number of asthmatic children affected by sulphite preservatives from less than 4% to 20-30% of asthmatic children¹⁹. These figures are probably a significant underestimate since they are derived mainly from studies using standard challenge testing^{9,20} which are likely to miss the majority of responders (see point above).
- The only study ever to use a comprehensive additive-free low salicylate elimination diet with asthmatic children found that over 65% of the children were affected by sulphites²¹. Such a significant effect cannot be ignored in the management of childhood asthma.
- In Australia, young children are frequent consumers of acknowledged sulphite vectors such as sausages, dried fruit snacks including muesli bars, fruit flavoured drinks and french fries. Total dietary intake figures showed that Australian two-year-olds consumed approximately twice as many sulphites as 12 year olds and nearly four times as many sulphites as adults per kg bodyweight²².
- As well as sulphites, benzoate preservatives (210-213) in drinks and medications have been associated with asthma. In France a child who took benzoate-preserved asthma medication continuously for six years remained asthma-free when avoiding benzoates in medication, drinks and food²³.
- Other food chemicals which have been associated with asthma in the Food Intolerance Network and with asthma or similar intolerance reactions in medical journals include annatto (E160b) natural colour²⁴, sorbates (200-213)²⁵, MSG (621),⁷ antioxidants BHA (E320) and BHT (321)^{26,27} and dietary salicylates¹⁸.

Effectiveness of dietary intervention

Improvements in asthma symptoms have been reported with additive-free, low salicylate diets for adult asthmatics^{18,28}, an additive-free low salicylate elemental formula²⁹ and an additive-free very low calorie meal replacement program³⁰ following obesity surgery. Dietary management is most effective when all provoking food chemicals are avoided³¹.

In a three month study of 19 asthmatic children, the only child of five to comply well with an additive-free, low salicylate diet was a formerly severe asthmatic who achieved normal lung function and freedom from all medication. There were no significant improvements in 14 sulphite sensitive children who were asked to avoid sulphites. Sensitivities to other food additives such as benzoates were not tested and researchers commented that the sulphite free diet 'did not involve radical changes in food consumption, and alternative foods and beverages not containing [sulphites] could be

substituted with ease²¹. This was not the experience of Corder and Buckley who after studying hundreds of asthmatics commented on the 'prevalence and abundance of doses of unlabeled sulfite in many foods ... in the USA'¹⁵. Members of the Food Intolerance Network can confirm that avoiding sulphites in Australian foods and medications is extremely difficult as the use of sulphites, including unlabelled sulphites, is so widespread.

Food labelling

It is considered that appropriate food labelling will help in alerting individuals who cannot tolerate sulphites¹⁹, but such labelling is of little use to children who are unaware of their sensitivities; to children whose parents or carers are not prepared to make the effort to restrict the child's diet; and in countries such as Australia where there is an abundance of unlabelled sulphite-containing foods, especially in unpackaged foods and takeaways.

The Food Intolerance Network has observed that families of asthmatic children are less motivated to restrict their diet unless there are other problems such as difficult behaviour. As one mother said, 'She's no trouble when she has asthma. She just sits there and tries to breathe.' When Sweden removed azo dyes from all food except caviar, cocktail cherries, fruit cocktails and some alcoholic drinks, the number of patients presenting with intolerance to azo dyes, benzoates and aspirin intolerance decreased³².

To protect food-sensitive asthmatic children - possibly the majority of asthmatic children - the appropriate public health response is to reduce the use of asthmagenic additives in the foods that children eat.

- **sulphites** - World Health Organisation guidelines recommend that when a suitable alternative method of preservation to sulphites exists, its use should be encouraged¹⁹. Italian researchers suggest that sulphites are not always essential from a technological point of view and MPLs (maximum permitted levels) could be reduced³³. For example, although permitted, Italians in general do not use sulphites in meats and in the USA, the use of sulphites in meat was banned in 1959 whereas in Australia, sulphites are permitted in sausages and processed meats, and although sulphites in mince were banned many years ago, there are still a number of butchers who disregard this regulation²².
- **artificial colours** - following an extensive review in 1999, independent scientists from the Centre for Science in the Public Interest recommended that the FDA should consider banning the use of artificial colours³⁴. There are natural alternatives.
- **annatto natural colour (160b)** - there is a safe natural alternative for this additive, betacarotene 160a, which is used widely throughout Europe although the use of betacarotene is discouraged in Australia by representatives of Food Standards Australia New Zealand who claim it is 'too difficult and expensive'.

- **antioxidants BHA, BHT and TBHQ** - can be replaced by safe antioxidants ascorbates and mixed tocopherols from the range 300-309.
- **benzoates** - For many years, 7UP lemonade has been a colour-free, preservative-free, low salicylate soft drink available in cans and bottles. As of this month, 7UP contains benzoates in the name of 'longer shelf life'. Is a longer shelf life strictly necessary?

***Fed Up with Asthma* by Sue Dengate**

This book, published by Random House in 2003, provides an up-to-date and comprehensive science-based review of the effects of food chemicals on asthma and how modification of diet can reduce or eliminate asthma in many people.

The work arose from observations of Food Intolerance Network members over many years. We noticed that when families embarked on the Royal Prince Alfred Hospital elimination diet for a child's difficult behaviour, any asthmatics in the family would improve. This was despite the fact that mothers usually said 'but his asthma isn't related to foods. He only gets it when he has a virus' or some other trigger. In the same way that asthmatics are unaware of their sensitivity to aspirin unless reactions occur within 20 minutes of ingestion¹⁴, most asthmatics think that unless they experience an immediate asthma attack after eating, they are not sensitive to foods.

Yet we noticed that in every case while the child or adult remained on the diet their asthma would improve and exposure to former triggers would fail to result in asthma. A review of the literature suggested that chronic exposure to certain food chemicals may cause continued inflammation of the airways with no obvious symptoms. These inflamed airways are more likely to result in asthma when exposed to environmental factors such as viruses or exercise. Findings so far suggest that bronchial responsiveness reduces when food chemicals to which a sensitivity has been demonstrated are removed from the diet^{35,15}.

This mechanism accounts for the hundreds of reports we have received of improvements in asthma while on the elimination diet; of recurrences of asthma when failsafers break their diets; and of numerous anecdotes such as: a 35 year old woman who developed adult-onset asthma within three months of switching from regular Coke (which is benzoate-free) to Diet Coke (which is preserved with benzoates) and became asthma-free when she reverted to regular Coke; a woman who developed adult-onset asthma when she followed a weight loss diet which involved snacking on a trail mix of sulphited fruit and nuts; a 5 year old failsafer with previously severe asthma who remained asthma-free while avoiding sulphites and benzoates until she missed nearly a term of schooling with asthma due to sorbate preservatives added unnoticed to the family's regular brand of margarine; a 12 year old who was kept wheat-free for eight years because her family had noticed her asthma occurred after sandwiches - the elimination diet showed the child's

asthma was related to BHA (320) in bread and margarine rather than wheat itself; a woman who realised a commercial soup contained MSG because it exacerbated her asthma - the puzzled company eventually found unlabelled MSG added by the supplier of their soup stock; health authorities in three regions who discovered excessive use of artificial food colouring in meat and rice dishes when English curry house patrons complained of asthma following curries; and elite athletes who have outgrown their childhood asthma but develop exercise asthma years later when they start eating large numbers of sulphite-containing muesli bars during training.

Fed Up with Asthma contains extensive scientific references and provides more detail than the above summary. It is helping thousands of Australian families. Here is one person:

From the knowledge I'd gained from your books, I was able to retrace which foods did what to him. The cause of my 3 year old's asthma became obvious – it was sulphites. When he ate something out of the ordinary such as two apricot fruit bars which he had not eaten in ages, he would come home, run around outside and have an asthma attack – Elisa Dickinson, Tasmania.

References

1. Haby MM, Peat JK, Marks GB, Woolcock AJ, Leeder SR. Asthma in preschool children: prevalence and risk factors, *Thorax* 2001;56:p589.
2. Speer S, *Management of childhood asthma*. Charles C Thomas, Springfield, 1958, cited in Feingold BF, Recognition of food additives as a cause of symptoms of allergy, *Ann Allergy* 1968;26:309-13.
3. Chaffee FH, Settupane GA. Asthma caused by FD&C approved dyes. *J Allergy* 1967;40:65-72.
4. Baker GJ, Collett P, Allen DH. Bronchospasm induced by metabisulphite-containing foods and drugs. *Med J Aust* 1981; 2:614-6.
5. Allen DH, Van Nunen S, Loblay R, Clarke L, Swain A. Adverse reactions to food. *Med J Aust* 1984; 141 (Suppl) 37-42.
6. Yang WH, Purchase ECR. Adverse reactions to sulfites, *Can Med Assoc J* 1985;133:865-880.
7. Moneret-Vautrin DA. Monosodium-glutamate-induced asthma, *Allerg Immunol* 1987;19(1):29-35.
8. Timberlake CM, Toun AK, Hudson BJ. Precipitation of asthma attacks in Melanesian adults by sodium metabisulphite. *PNG Med J* 1992;35:186-190.
9. Steinman HA, Le Roux M, Potter PC. Sulphur dioxide sensitivity in South African asthmatic children, *S Afr Med J* 1993;83:387-390.
10. Gastaminza G, Quirce S, Torres M, Tabar A, Echechipia S, Munoz Fernandez de Corres L. Pickled onion-induced asthma: a model of sulfite-sensitive asthma? *Clin Exp Allergy* 1996;25(8):698-703.
11. Arai Y, Muto H, Sano Y, Ito K. Food and food additives hypersensitivity in adult asthmatics. III Adverse reactions to sulfites in adult asthmatics. *Arerugi* 1998;47(11):1163-7.

12. American Academy of Pediatrics. 'Inactive' ingredients in pharmaceutical products, *Pediatrics* 1997;99(2):268-78.
13. McDonald JR, Mathison DA and Stevenson DD. Aspirin intolerance in asthma, *J Allergy Clin Immunol* 1972;50(4):198-207.
14. Stenius BS, Lemola M. Hypersensitivity to acetylsalicylic acid (ASA) and tartrazine in patients with asthma. *Clin Allergy* 1976;6(2):119-29.
15. Corder EH, Buckley CE 3rd. Aspirin, salicylates, sulfite and tartrazine induced bronchoconstriction. Safe doses and case definition in epidemiological studies. *J Clin Epidemiol* 1995;48(10):1269-75.
16. Hijazi N, Abalkhail B, Seaton A. Diet and childhood asthma in a society in transition: a study in urban and rural Saudi Arabia. *Thorax* 2000; 55:775-779.
17. Bush RK, Taylor SL, Holdren K, Nordlee JA, Busse WW. Prevalence of sensitivity to sulfiting agents in asthmatic patients, *Am J Med* 1986;81(5):816-20.
18. Hodge L, Yan KY, Loblay RL. Assessment of food chemical intolerance in adult asthmatic subjects. *Thorax* 1996;51(8):805-9.
19. Fifty-first meeting of the Joint FAO/WHO Expert Committee on Food Additives, Safety Evaluation of Certain Food Additives: Sulfur Dioxide and Sulfites, World Health Organisation, Geneva, 1999.
20. Friedman ME, Easton JG. Prevalence of positive metabisulfite challenges in children with asthma. *Pediatr Asthma Aller Immunol* 1987;1:53-59.
21. Towns SJ, Mellis CM. Role of acetyl salicylic acid and sodium metabisulfite in chronic childhood asthma. *Pediatrics* 1984;73(5):631-7.
22. Australia New Zealand Food Authority. *The 1994 Australian Market Basket Survey*, Australian Government Publishing Service, 1996, Canberra, p42.
23. Petrus M, Bonaz S, Causse E, Rhabbour M, Moulie N, Netter JC, Bildstein G. Asthme et intolérance aux benzoates. *Arch Pédiatr* 1996;3:984-987.
24. Mikkelsen H, Larsen JC, Tarding F. Hypersensitivity reactions to food colours with special reference to the natural colour annatto extract (butter colour). *Arch Toxicol Suppl* 1978;(1):141-3.
25. Soschin D, Leyden JJ. Sorbic acid-induced erythema and edema. *J Am Acad Dermatol* 1986;14(2 Pt 1):234-41.
26. Fisherman EW, Cohen G. Chemical intolerance to butylated-hydroxyanisole (BHA) and butylated-hydroxytoluene (BHT) and vascular response as an indicator and monitor of drug intolerance. *Ann Allergy* 1973;31(3):126-33.
27. Bauer AK, Dwyer-Nield LD, Keil K, Koski K, Malkinson AM. Butylated hydroxytoluene (BHT) induction of pulmonary inflammation. *Exp Lung Res* 2001;27(3):197-216.
28. Genton C, Frei PC, Pecoud A. Value of oral provocation tests to aspirin and food additives in the routine investigation of asthma and chronic urticaria. *J Allergy Clin Immunol* 1985;76(1):40-5.
29. Hoj L, Osterballe O, Bundgaard A, Weeke B, Weiss M. A double-blind controlled trial of elemental diet in severe, perennial asthma. *Allergy* 1981;36(4):257-62.

30. Stenius-Aarniala B, Poussa T, Kvarnstrom J, Gronlund EL, Ylikahri M, Mustajoki P. Immediate and long term effects of weight reduction in obese people with asthma: randomised controlled study. *BMJ* 2000;320(7238):827-32.
31. Clarke L, McQueen J, Samild A and Swain A. The dietary management of food allergy and food intolerance in children and adults. *Australian Journal of Nutrition and Dietetics* 1996;53(3):89-94.
32. Juhlin L. Recurrent urticaria: clinical investigation of 330 patients. *Br J Dermatol* 1981;104(4):369-81.
33. Leclercq C, Molinaro MG, Piccinelli R, Baldini M, Arcella D, Stacchini P. Dietary intake exposure to sulphites in Italy - analytical determination of sulphite-containing foods and their combination into standard meals for adults and children. *Food Addit Contam* 2000;17(12):979-89.
34. Jacobson FJ, Schardt D. *Diet, ADHD and behaviour: a quarter-century review*. Centre for Science in the Public Interest, 1999 Washington DC. www.cspinet.org
35. Yan KY, Nicholas NR, Salome C. Effect of diet on bronchial hyperresponsiveness in asthma. Proceedings of 1st congress of the Asian Pacific Society of Respiratory. Tokyo, Japan, 1988:69, reported in Hodge L *et al*, cited above.

materials significantly different from those evaluated by the Scientific Committee for Food or different from those mentioned in this Directive should be submitted for safety evaluation by the European Food Safety Authority with emphasis on the purity criteria. Having regard to Council Directive 89/107/EEC of 21 December, 1988 on the approximation of the laws of the Member States concerning food additives authorised for use in foodstuffs intended for human consumption. (1.), and in particular Article 3. (3)(a) thereof, (5). The measures provided for in this Directive are in accordance with t Under the Food Standards Code added sulphites must be declared on the label of a packaged food when present in foods in concentrations of 10 mg/kg or more. This allows consumers who may be sensitive to sulphites to avoid them. Food manufacturers usually declare the presence of added sulphites in the ingredient list, and must declare the prescribed class name (e.g. preservative), followed by the additive's specific name (e.g. sulphur dioxide) or code number (e.g. 220 to 228).Â More information. Proposal 298 â€“ Benzoate and sulphite permissions in food. Also foods that elevate the blood acidity, despite their low purine content, may cause an aggravation of gout. Some examples may be: very spicy and greasy food, coffee, alcohol, excess tea, deeply fried food and more. In Chinese medicine concepts, these foods fall under the category of Heat and Damp producing foods and beverages. The following foods list is from the book: GOUT by Prof. R. Grahame, Dr. A. Simmonds and Dr. E. Carrey Previous studies determining sulphites levels in foods The 21st Australian Total Diet Study (ATDS) coordinated by FSANZ in 2003, analysed concentrations of sulphites in selected foods and beverages. It also estimated the dietary exposure of the Australian population to sulphites (FSANZ 2005). The analytical results indicated that dried apricots (2097 mg/kg¹), dried apple (1252 mg/kg¹) and beef sausages (275 mg/kg¹) had the highest sulphite levels when compared to 51 other foods and beverages.Â These new data will be used in the dietary exposure assessments for Proposal P298 - Benzoates and Sulphites Permissions in Food. For further information on P298, please refer to the FSANZ website. Food Standards as amended, taking into account amendments up to Food Standards (Application A1100 â€“ Maximum Permitted Level of Acesulphame Potassium in Chewing Gum) Variation. This instrument includes new Schedule 15 in the Australia New Zealand Food Standards Code. Administered by: Health. Incorporated Amendments. Australia New Zealand Food Standards Code â€“ Transitional Variation 2015 (Application A1103 â€“ Citric & Lactic Acids as Food Additives in Beer & related Products) - F2015L01385. sch. Food Standards (Proposal P1036 â€“ Code Revision â€“ Consequentials & Corrective Amendments) V