



# मध्याह्न भोजन प्राधिकरण, उ०प्र०

203/9, नबीउल्लाह रोड, लखनऊ

फोन नं०-0522-2614721

ई मेल-ikomdm@gmail.com

Website: www.upmdm.org

पत्रांक : म०भ०प्रा०/८-३३२६ / 2023-24

दिनांक: २६ फरवरी, 2024

सेवा में,

जिला बेसिक शिक्षा अधिकारी,  
समस्त जनपद।

विषय: पी०एम० पोषण योजनान्तर्गत भोजन पकाए जाने में प्रयोग किये जाने वाले बर्तनों के सम्बन्ध में।

महोदय/महोदया,

उपर्युक्त विषयक अनु सचिव, भारत सरकार, शिक्षा मंत्रालय, स्कूल शिक्षा एवं साक्षरता विभाग डेस्क (PMP) सेक्शन नई दिल्ली के पत्रांक: F.No. 1-3/2023-Desk(PMP) दिनांक 03 जुलाई, 2023 (छायाप्रति संलग्न) का संदर्भ ग्रहण करें।

उक्त पत्र के माध्यम से अवगत कराया गया है कि भोजन पकाने में कोटिंग रहित एल्यूमिनियम के बर्तनों का प्रयोग किये जाने में भोजन में एल्यूमिनियम की लीचिंग का खतरा रहता है, जिससे स्वास्थ्य संबंधी हानिकारक प्रभाव हो सकते हैं। एल्यूमिनियम की लीचिंग भोजन पकाने के तापमान, भोजन पकाने के माध्यम, पकायी जा रही खाद्य सामग्री यथा-टमाटर, इमली, सिरका इत्यादि तथा भोजन पकाने की अवधि पर निर्भर करती है। अतः योजनान्तर्गत भोजन पकाने में एल्यूमिनियम के बर्तनों का प्रयोग कम से कम उपयोग किये जाने का सुझाव दिया गया है।

अतः अपेक्षित है कि योजनान्तर्गत भोजन पकाने में एल्यूमिनियम के बर्तनों का कम से कम उपयोग किये जाने हेतु जागरूक किया जाय तथा भविष्य में योजना हेतु बर्तनों के क्रय में यथासम्भव एल्यूमिनियम के स्थान पर स्टेनलेस स्टील के बर्तनों को वरीयता प्रदान की जाय।

संलग्नक-यथोक्त

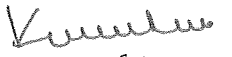
भवदीया,

( कंचन वर्मा )  
निदेशक

पृष्ठांकन एवं दिनांक तदैव

प्रतिलिपि- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित-

1. समस्त जिलाधिकारी, उत्तर प्रदेश
2. समस्त मण्डलीय सहायक शिक्षा निदेशक(बेसिक), उत्तर प्रदेश।
3. समस्त जिला विद्यालय निरीक्षक, उत्तर प्रदेश।

  
( कंचन वर्मा )  
निदेशक



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विषय: पी०एम० पोषण योजनान्तर्गत भोजन पकाए जाने में प्रयोग किये जाने वाले बर्तनों के सम्बन्ध में।

महोदय/महोदया,

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संलग्नक-यथोक्त

भवदीया,

*Kaushik*  
( कंचन वर्मा )  
निदेशक

पृष्ठांकन एवं दिनांक तदैव

प्रतिलिपि- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित-

1. समस्त जिलाधिकारी, उत्तर प्रदेश
2. समस्त मण्डलीय सहायक शिक्षा निदेशक(बेसिक), उत्तर प्रदेश।
3. समस्त जिला विद्यालय निरीक्षक, उत्तर प्रदेश।

*Kaushik*  
( कंचन वर्मा )  
निदेशक

**F. No.1-3/2023-Desk(PMP)**  
**Government of India**  
**Ministry of Education**  
**Department of School Education & Literacy**  
**Desk(PMP) Section**

**Shastri Bhawan, New Delhi**  
**Dated 3<sup>rd</sup> July, 2023**

To,

The Additional Chief Secretaries/Principal Secretaries/Secretaries of Education/All Nodal Department for PM POSHAN

**Subject: Harmful effects from consumption of food cooked in Aluminium Utensils - reg.**

Respected Sir/Madam,

I am directed to inform that PM POSHAN is one of the foremost rights based centrally sponsored schemes under the National Food Security Act, 2013 (NFSA) covering about 12 crore children studying in 10.84 lakh Government and Government aided schools.

2. The meal under PM POSHAN is prepared at school level in school-based kitchens and at centralized kitchens for the schools covered by NGOs etc. The Scheme provides funds for procurement of Kitchen Devices based on school wise enrolment for cooking and serving hot cooked meal under PM POSHAN. Further, every school is also eligible to get replacement of kitchen devices after an interval of 5 years.

3. During the recently concluded PAB meetings, the issue of cooking vessels has come up for discussion. It was pointed out by the representative of Ministry of Health and Family Welfare that generally many States and UTs use kitchen devices made of Aluminum for cooking and serving meal. Latest studies are suggesting that Aluminum is a toxic metal and have adverse health effects. Its long-term use has been associated with certain clinical conditions such as anaemia, dementia and osteo-malacia. Further, various studies have also pointed out that cooking in uncoated aluminium will cause

**Contd...2/-**

*Wk*  
*03.7.2023*

the metal to leach into food. The leaching of aluminium depends on factors such as pH, temperature, cooking medium and how long it spends in the vessel. It is suggested that in order to avoid adverse health effects on school students, regular cooking in aluminium vessels may be avoided. The note of Ministry of Health & Family Welfare on the subject matter is annexed for ready reference please.

4. You are, therefore, requested to identify ways to increase awareness and to initiate appropriate measures to minimize the use of aluminium vessels at school level/centralized kitchens to avoid harmful effects of leaching of aluminium from cooking utensils in school meals under PM POSHAN Scheme.

5. This issues with the approval of the Competent Authority.

Yours faithfully,

**Encl: As above**

*VK 03.7.2013*

(Ajay Kumar)

Under Secretary to the Govt. of India

Tel: 011-23386169

Email: ajay.kr71@gov.in

Copy for information to:-

1. The Commissioners/Directors (PM POSHAN) of all States & UTs.
2. Director (GVB) / Director (AB) / DS (DA).

Ministry of Health and Family Welfare  
Government of India  
(Nutrition Division)

Note on harmful effects from consumption of food cooked in  
Aluminium Utensils

Aluminum is a toxic metal, which is commonly found in environment and water. Aluminum in the form of compounds and alloys are found to be used in wide variety of utensils like pots, pans, pressure cookers, cans and packaging materials like aluminum foils. Use of aluminum in the form of vessels is very rampant in Indian society due to its low cost and easy availability. Apart from utensils, aluminum also find its use in alum used for water treatment and in medicines such as antacids, buffered aspirin as well as astringents, food additives, cosmetics, and antiperspirants.

Concerns have been raised time and again on adverse health effects of aluminium on the human body, due to its leaching from utensils with long-term use, which has been associated with certain clinical conditions such as anaemia, dementia and osteomalacia.<sup>1</sup> Although exposure to aluminium within permissible limits is usually not harmful<sup>2</sup>, but exposure to high levels as found in leaching of aluminium on cooking acidic foods in aluminium vessels can adversely impact the health. Further, Aluminium is regarded as a neurotoxin agent due to its accumulation in brain, bones and liver<sup>3</sup> and is known to be harmful to patients with bone disease or renal dialysis. The high concentrations of aluminium have been detected in the brain tissue of patients with Alzheimer's disease, Parkinson disease and dialysis encephalopathy.<sup>3</sup>

Various research studies have pointed that cooking in uncoated aluminium will cause the metal to leach into food and the leaching of aluminium from cooking utensils depends on many factors such as pH, temperature, cooking medium and how long it spends in the pan. A low pH of highly reactive acidic foods such as tomatoes, tamarind, vinegar with presence of citric acid, tartaric acid, acetic acid etc. is found to enhance leaching of aluminium from the utensils. Karbouj has also reported that aluminum present in food utensils can expose humans to the ingestion of big quantities of aluminum<sup>4</sup>, especially in the case of acidic dishes as tomato sauce.

A study on leaching of aluminium from aluminium dishes and packages<sup>5</sup> has highlighted that leaching of aluminium from tap water boiled in aluminium vessels increased with increasing boiling time from 0.2 to 0.7 mg/l to 6.3-17 mg/l. Further, leaching of aluminium increased to levels of 2.9-35 mg/kg when the foods based on acidic fruit juice were boiled in aluminium pans.

Hence, Aluminium utensils are a common source for toxic aluminium metal to enter human body through food sources. It is highly suggested that in order to avoid adverse health

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effects on human body, regular cooking in aluminium vessels must be avoided. Further, cooking of acidic foods in uncoated aluminium pans must be totally avoided to reduce intake of unwanted aluminium from cookware. It is very necessary to ensure awareness for avoidance of use of aluminium vessels, both at individual level for household cooking and at large scale platforms like canteens and meal distribution schemes involving large scale production of meals cooked in aluminium vessels, to avoid harmful effects of leaching of aluminium from cooking utensils.

<sup>1</sup> Gupta YK, Meenu M, Peshin SS. Aluminium utensils: Is it a concern? Natl Med J India. 2019 Jan-Feb;32(1):38-40. doi: 10.4103/0970-258X.272116. PMID: 31823940.

<sup>2</sup> <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=190&toxid=34#:~:text=Exposure%20to%20aluminum%20is%20usually,or%20abnormal%20chest%20X%20Drays>

<sup>3</sup> [https://www.researchgate.net/profile/Ghada\\_Bassioni/publication/221971632\\_Effect\\_of\\_Aluminum\\_Leaching\\_Process\\_of\\_Cooking\\_Wares\\_on\\_Food/links/0fcfd508f38dab77a7000000.pdf](https://www.researchgate.net/profile/Ghada_Bassioni/publication/221971632_Effect_of_Aluminum_Leaching_Process_of_Cooking_Wares_on_Food/links/0fcfd508f38dab77a7000000.pdf)

<sup>4</sup> R. Karbouj, Food Chem. Toxicol, 45(9) (2007) 1688

<sup>5</sup> Liukkonen-Lilja H, Piepponen S. Leaching of aluminium from aluminium dishes and packages. Food Addit Contam. 1992 May-Jun;9(3):213-23. doi: 10.1080/02652039209374065. PMID: 1397396.

Wk

**Prachi Pandey**  
**Joint Secretary (EE.I)**  
**Ministry of Education**  
**Tel:- 011-23389247**



DO. No: 15-7/2023-Desk(PMP)

Dated the 20<sup>th</sup> April, 2023

*Respected Madam Sir,*

As you aware, Pradhan Mantri Poshan Shakti Nirman (PM POSHAN) Scheme is one of the foremost rights based Centrally Sponsored Schemes implemented in partnership with States and UTs. This Scheme benefits about 12 crore children studying in Balvatika (just before class I) and Classes I-VIII in Government and Government-Aided Schools.

2. Provision of kitchen devices is one of the components under the Scheme. It is pertinent to note that availability of kitchen devices is a significant factor in facilitating effective preparation of hot cooked meals at the school level. It has been observed during the ongoing meetings of Programme Approval Board that there is a considerable delay in procuring the kitchen devices in various States.

3. You may be aware that in the sanction orders for kitchen devices itself, States & UTs are advised that

'State Government may consider procurement of Kitchen Devices in a decentralized manner, preferably at school/block level, so that there is no delay in making available the required devices to the schools. However, if the State Government is of the opinion that for achieving economics of scale and for ensuring uniformity of quality, standards and specifications, they are at liberty to adopt such transparent & effective methods that are in public interest.'

4. In this context, the matter has been examined and accordingly, the States and UTs are advised that if the State Government / UT Administration intends to adopt centralized procurement for achieving economics of scale and for ensuring uniformity of quality, standards and specifications, they may do so through Government-e-Marketplace (GeM) at <https://gem.gov.in/>, which is a transparent & effective public procurement portal.

Yours sincerely,

*Prachi Pandey*  
20.4/2023  
(Prachi Pandey)

To,

1. The Additional Chief Secretaries/Principal Secretaries/ Secretaries of Dept. of Education/ Nodal Departments for PM POSHAN
2. The Commissioners / Directors of PM POSHAN of all States & UTs