

There's nothing risky about microwave radiation – but there are health concerns about heating up plastic. You can also check your container's universal recycling symbol, often on the bottom of a product – those with a number 3 and the letters "V" or "PVC" include phthalates. ?Is cooking or reheating food in a microwave safe? ?Even if you avoid plastics, there are other potential risks of heating food in the microwave – including uneven heating, and the high temperatures used. ?First, consider using microwaves to reheat, rather than cook, food, as it may cook unevenly. ?"Temperatures will be different in a cross-section of the food. It's hard to achieve a completely uniform temperature, especially when talking about raw foods." ?"Some plastic isn't designed for microwaves because it has polymers inside to make it soft and flexible, which melt at a lower temperature and may leach out during the microwave process if it goes beyond 100C (212F)," says Juming Tang, professor of food engineering at Washington State University. ?Microwaving mobilises contaminants," says Rolf Halden, professor and director of the Biodesign Center for Environmental Health Engineering at Arizona State University. ?And the potential risks don't necessarily increase with how often an individual microwaves food in plastic containers, Trasande argues – as the relationship is non-linear between the amount of chemical exposure and risk of hormone disruption. ?"The old pedagogy was that the dose mediated poison. Now we understand from multiple studies that low level exposures are where the greatest component of effects happens, so there's no safe level of exposure," Trasande says. Generally speaking, higher temperatures aren't a problem, but there is some research suggesting a risk linked to cooking some starchy foods in the microwave, including cereals and root vegetables. ?When Betty Schwartz, professor of nutritional sciences at the Hebrew University of Jerusalem, saw her students heating jacket potatoes in the microwave on their lunchbreaks, she noticed small crystals inside their potatoes. ?If you're eating crops grown from sunlight, you shouldn't be concerned about food from a microwave – Juming Tang ?The high temperatures of the microwave may also pose some risk. The researchers compared the impacts of boiling, steaming and microwaving different vegetables and concluded that microwaving was the most effective for retaining nutrients. Food must be heated until it is 82C (176F) throughout to kill any harmful bacteria – and because bacteria can still grow each time food cools back down, you shouldn't reheat a meal more than once. ?However, researchers have also found that short exposure to microwaves – such as blanching or thawing – at low power might limit the formation of acrylamide when it's then cooked further. ?We often microwave foods in plastic containers and wrapping, but some scientists warn of the risk of ingesting phthalates. Schwartz asked her students to boil their potatoes instead, and found that this didn't create acrylamide, which she says forms in higher temperatures in the microwave. ?Asia's ?healthcare demands are evolving. How is Mitsui & Co. seeking to meet these challenges