

3. 行政院衛生署。1985。化粧品中禁止使用成分。74.07.23衛署藥字第539747號公告。
4. 謝彭生、邵清益、曾木全。1983。粉餅、眼影餅類化粧品中含鉛量之調查檢驗。藥物食品檢驗局調查研究年報，3: 105-108。
5. 鄭守訓、林阿洋。1996。眼部用化粧品類鉛、鎘含量之品質調查。藥物食品檢驗局調查研究年報，14: 329-331。
6. 黃維生、林澄琴、黃琴曉、黃明權、鄒玫君。口紅與眼部化粧品中鉛、鎘、砷含量之調查。2006。藥物食品檢驗局調查研究年報，24: 48-56。
7. Al-Saleh, I., Al-Enazi, S. and Shinwari, N. 2009. Assessment of lead in cosmetic products. Regul. Toxicol. Pharmacol. 54: 105-113.
8. Volpe, M. G., Nazzaro, M., Coppola, R., Rapuano, F. and Aquino, R. P. 2012. Determination and assessments of selected heavy metals in eye shadow cosmetics from China, Italy, and USA. Microchem. J. 101: 65-69.
9. 行政院衛生署。2002。化粧品衛生管理條例。91.06.14總統華總一義字第09100119210號令。
10. 行政院衛生署。2006。化粧品之標籤仿單包裝之標示規定。95.12.25衛署藥字第0950346818號公告。

## Survey on Lead, Arsenic and Cadmium of Marketed Cosmetics in Taiwan Area

SHU-HWA HUANG, SHOU-CHIEH HUANG, CHIH-PING HUNG,  
YU-PEN CHEN AND DANIEL YANG-CHIH SHIH

Division of Research and Analysis, FDA

### ABSTRACT

In order to investigate the quality of marketed cosmetics, 99 samples were randomly collected from cosmetics stores, drug stores and pharmacies by local health bureaus in Taiwan area from January to April, 2011. These samples were analyzed for lead (Pb), arsenic (As) and cadmium (Cd) by inductively coupled plasma-mass spectrometry (ICP-MS). The result showed that 1 sample contained higher lead than the announced level of 20 ppm set by Department of Health. In addition, 13 samples (13.1%) violated the labeling regulation requirements.

Key words: cosmetic, lead (Pb), arsenic (As), cadmium (Cd), ICP-MS