

Chromate in a food laboratory

N. BANG PEDERSEN

Section of Occupational Dermatology,
University Hospital, S-221 85 Lund,
Sweden

The patient is a 26-year-old female laboratory technician, who has worked for 8 years in an industry which produces canned and frozen food.

During the past 4 years she had experienced attacks of vesicular eczema on the palms and on the volar aspect of the fingers. The condition had improved to some extent during summer holidays. Patch tests with ICDRG allergens were positive to chromate. Her main occupation is to determine the content of sodium chloride in the cooked food, before it is canned. This is done according to the method of Mohr (Rauscher 1972). Ten g of the food (soup, ravioli or meatballs) are homogenized. Water is added and the mixture is heated for 15 minutes. Afterwards the mixture is cooled to room temperature and filtered. To 25 ml of the filtrate is added a small volume of a

10 % potassium chromate solution as an indicator. The filtrate is then titrated with a solution of 0.1 N silver nitrate. When all chloride ions have been precipitated by silver ions, the red colour of silver chromate will occur in the solution. The potassium chromate was kept in a bottle and the solution was added to the filtrate by means of a pipette. The patient took the bottle, which was probably contaminated on the outside, 8-10 times a day in her bare hands. She now uses gloves when she handles the bottle, until an automatic dispenser is introduced.

Reference

Rauscher, K. (1972) *Untersuchung von Lebensmitteln*, pp. 104-105. Leipzig: VEB Fachbuchverlag.

Chromate in a defatting solvent

ANNE MARIE ROS AND NIELS BANG PEDERSEN

Section of Occupational Dermatology, University Hospital, S-221 85 Lund, Sweden

The patient is a 26-year-old man. He may have had an atopic dermatitis at the age of 1 year, when there was a moderate eczema in the knee and elbow flexures.

He has been employed for 6 years in a firm where diesel engines from lorries are repaired. The engines are taken out of the lorries for reparation. During the last 2 years he has suffered from hand dermatitis. Patch tests with ICDRG allergens showed a positive reaction to chromate. The source of allergen was a bath of defatting solvent in which he placed the

motor parts. The solvent was an industrial product especially designed for this purpose, that is to remove paint and soot from the engine parts. It consists mainly of derivatives of hydrocarbons. The solvent also contains 0.2 % sodium chromate to prevent corrosion of the surfaces of the metal, which has been "activated" by the solvent. As the sodium chromate is meant to stay on the surface of the engine parts, it may also contaminate the skin of other workers who later assemble the engines.

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