

HH-29.1. Occupational scenario for galvanising, plating and other surface treatment of metal articles

Systematic title based on use descriptor	PROCs	
	13	Treatment of articles by dipping and pouring.

HH-29.2 Controlling worker exposure

Product characteristics	Plating solutions contain less than 1% boron.	
Amounts used	Ranging from 25-200 kg borate.	
Frequency and duration of use	The treatment baths can be used up to 24 hours per day. Manually turning the components may take up to 1 hour per shift.	
Human factors not influenced by risk management	None	
Other given operational conditions affecting workers exposure	Activities take place indoors. The baths are operated at about 60 °C.	
Technical conditions and measures at process level (source) to prevent release	None	
Technical conditions and measures to control dispersion from source towards the worker	Canopy hoods over the baths capture and remove steam.	
Organisational measures to prevent /limit releases, dispersion and exposure	Appropriate training. Regular testing and maintenance of plant and equipment.	
Conditions and measures related to personal protection, hygiene and health evaluation	Clothing	Chemical resistant overalls
	Gloves	Not required for normal industrial exposure
	Eye protection	Required where good hygiene practice or substance classification demands it
	RPE	-

HH-29.3. Exposure estimation

INHALATION							
		Activity	Source/ Parameters	RMM	Value 8h TWA mg B/m ³	RCR DNEL = 1.45 mg B/m ³	
		Inhalation exposure unlikely, no aerosol are formed					
DERMAL							
Human Health Exposure Estimations		Activity	Source/ Parameters	RMM	Value mg B/day	RCR DNEL = 4800 mg B/day	
Modelled (MEASE)	Manually turning the components		Physical form	liquid	-	0.048	<0.001
			Content	< 1% boron			
			PROC	4			
			Duration	15 – 60 min			
			Use pattern	non dispersive			
			Handling	direct			
			Contact level	intermittent			

HH-29.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

If the parameters used in the MEASE model outlined above do not reflect conditions at the DU facility, the DU can use MEASE and input the parameters that do reflect conditions at the DU facility to check whether the DU works inside the boundaries set by the ES. Detailed guidance for evaluation of ES can be acquired via your supplier or from the ECHA website (guidance R14, R16).