

HH-22.1. Occupational scenario for transfer of substance into small containers

Systematic title based on use descriptor	PROCs	Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
	9	

HH-22.2 Controlling worker exposure

Product characteristics	Solid, liquid or paste containing 0.11 – 8.6% boron.	
Amounts used	May be tens of tonnes per day.	
Frequency and duration of use	Several times a day, daily, weekly or monthly process. Activity can take 1 to 8 hours.	
Human factors not influenced by risk management	None	
Other given operational conditions affecting workers exposure	Some packaging processes are largely automatic.	
Technical conditions and measures at process level (source) to prevent release	Not required.	
Technical conditions and measures to control dispersion from source towards the worker	Where solid powders are being bagged the minimum engineering control required is effective LEV.	
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	Standard work clothes.
	Gloves	Not required for normal industrial exposure.
	Eye protection	Required where good hygiene practice or substance classification demands it.
	RPE	P2/P3 required where exposure is above the DNEL.

HH-22.3. Exposure estimation

INHALATION										
		Activity	Source/ Parameters	RMM	Value 8h TWA mg B/m ³	RCR DNEL = 1.45 mg B/m ³				
		Measured	Packaging boron containing substances	Read Across from packaging borate powders in 25kg bags	LEV RPE not taken into account	0.4	0.28			
		Modelled (ART)	Packaging boron containing substances	Falling liquids Transfer flow 10-100l/minute Open process splash loading Effective housekeeping Indoors Any size workroom Good natural ventilation	LEV	0.01 (90P)	0.007			
DERMAL										
		Activity	Source/ Parameters	RMM	Value mg B/day	RCR DNEL = 4800 mg B/day				
							Modelled (MEASE)	Non automated packaging of powders	Physical form	high dustiness
									Content	5 - 25% boron
PROC	9									
Duration	> 240 min									
Use pattern	non dispersive									
Handling	direct									
Modelled (MEASE)	Non automated packaging of liquids	Contact level	intermittent							
		Physical form	aqueous liquid							
		Content	5 – 25% boron							
		PROC	9							
		Duration	> 240 min							
		Use pattern	non dispersive							
			Handling	non-direct						
			Contact level	incidental						

HH-22.4. 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).