

HH-9.1. Occupational scenario for diluting Metal Working Fluid concentrate with water

Systematic title based on use descriptor	PROCs	Mixing or blending in batch processes for formulation of preparations/articles (multistage and/or significant contact).
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HH-9.2 Controlling worker exposure

Product characteristics	Emulsion or solution containing up to 5.5% borate or boric acid.	
Amounts used	Widely varying from several to tens of litres.	
Frequency and duration of use	Depend on the management of the fluids from site to site.	
Human factors not influenced by risk management	None	
Other given operational conditions affecting workers exposure	Activities take place indoors at ambient conditions.	
Technical conditions and measures at process level (source) to prevent release	Semi-automatic systems for managing the concentration of the MWF in the sump can be used.	
Technical conditions and measures to control dispersion from source towards the worker	None	
Organisational measures to prevent /limit releases, dispersion and exposure	Appropriate training. Regular testing and maintenance of 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	-

HH-9.3. Exposure estimation

INHALATION								
Not relevant, no aerosols are formed								
DERMAL								
Human Health Exposure Estimations	Modelled (MEASE)	Activity	Source/ Parameters		RMM	Value mg B/day	RCR DNEL = 4800 mg B/day	
			Manually diluting MWF	Phys. form				liquid
				Content				< 1% boron
				PROC				8b
				Duration				15 – 60 min
				Use pattern				non dispersive
				Handling				non direct
Contact level	incidental							

HH-9.4. 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).