

HH-39.1. Occupational scenario for industrial use of abrasives

Systematic title based on use descriptor	PROCs	
	24	High (mechanical) energy work-up of substances bound in materials and/or articles.

HH-39.2 Controlling worker exposure

Product characteristics	The abrasive on the wheels contain 1-5% boric oxide.	
Amounts used	Depends on the grinding and cutting activities.	
Frequency and duration of use	Daily with operatives grinding for 4-6 hours per day.	
Human factors not influenced by risk management	None	
Other given operational conditions affecting workers exposure	Activities take place indoors.	
Technical conditions and measures at process level (source) to prevent release	None	
Technical conditions and measures to control dispersion from source towards the worker	LEV present.	
Organisational measures to prevent /limit releases, dispersion and exposure	Appropriate training.	
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	RPE may be used to prevent exposure to other hazardous materials

HH-39.3. Exposure estimation

		INHALATION										
		Activity	Source/ Parameters		RMM	Value 8h TWA mg B/m ³	RCR DNEL = 1.45 mg B/m ³					
Human Health Exposure Estimations	Measured	Grind metal, cut bricks, cut stones with abrasive wheels	BTU2000			0.424	0.29					
	Modelled (MEASE)	Using abrasive wheels	Physical form	massive		General ventilation	0.166	0.11				
			Content	< 1% boron								
			PROC	24								
			Duration	> 240 min								
	Modelled (MEASE)	Industrial use of abrasive wheels	Scale	industrial		-	0.198	<0.001				
			DERMAL									
			Professional use of abrasive wheels	Physical form	massive				-	0.119	<0.001	
				Content	< 1% boron							
				PROC	24							
Duration		60-240 min										
Professional use of abrasive wheels		Use pattern	wide dispersive		-	0.119	<0.001					
		Handling	non direct									
		Contact level	extensive									
		Physical form	massive									
	Content	< 1% boron										

HH-39.4. 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).