E-1.1 Environmental scenario for importing, manufacture, refining and packaging of borates

Systematic title based on use descriptor	**ERCs**	**Description**	
	1	Manufacture of chemicals	
	6a	Industrial use resulting in manufacture of another substance (use of intermediates)	
Sub scenarios		**ES1:** Excluding processing of borates with water	**ES2:** Including processing of borates with water

E-1.2 Controlling environmental exposure

Product characteristics	Granular or powder form		
Amounts used	**ES1:** 100 000 T B/y	**ES2:** 55 000 T B/y	
Frequency and duration of use	220 days per year		
Environment factors not influenced by risk management	**ES1:** Not relevant	**ES2:** Dilution factor of 37	
Other given operational conditions affecting environmental exposure	Delivery and raw material handling mostly happen in open air. Weighing takes place inside. Most of the subsequent steps take place inside a building in (semi) enclosed systems. Process/cooling water is recycled or discharged to canal or river.		
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	**Release factor to water after on-site treatment**	**ES1:** Not relevant	**ES2:** 554 g/T
	Release factor to air after on-site treatment	**ES1:** 0.53 g/T	**ES2:** 0.53 g/T
Organizational measures to prevent/limit release from site	Minor maintenance tasks are carried out by plant operatives, while major tasks are carried out by qualified maintenance personnel (electricians, mechanics). Spillages of powder or granulated borates should be swept or vacuumed up immediately and placed in containers for disposal in order to prevent unintentional release to the environment.		
Conditions and measures related to municipal sewage treatment plant	Not relevant; direct discharge.		
Conditions and measures related to external treatment of waste for disposal	Where appropriate material should be recovered and recycled through the process. Waste containing borates should be handled as hazardous waste.		

E-1.3. Exposure estimation

		PEC	PNECadd	RCR
ES1: Environmental Exposure Estimations	**Aquatic environment**	Not relevant	2 020 µg/L	Not relevant
	Terrestrial environment	0.01 mg/kg dw	5.4 mg/kg dw	0.002
ES2: Environmental Exposure Estimations		**PEC**	**PNECadd**	**RCR**
	Aquatic environment	1 872 µg/L	2 020 µg/L	0.954
	Terrestrial environment	0.01 mg/kg dw	5.4 mg/kg dw	0.002

E-1.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The DU works inside the boundaries set by the ES if either the proposed risk management measures or emissions (expressed in g/T) as described above are met or the DU can demonstrate on his own that his implemented risk management measures or emissions are adequate. Detailed guidance for evaluation of ES can be acquired via your supplier or from the ECHA website (guidance R16). For environmental exposure, a DU-scaling tool (free download: http://www.arche-consulting.be/Metal-CSA-toolbox/du-scaling-tool) is available.