

## Exposure Scenario (ES): Use of CTPht for manufacture of formulations for various industrial uses

ECS and WCS	Task (ERC/spERC or PROC)	Annual amount per site (tonnes/year)	Technical RMMs, including: <b>*Containment,</b> <b>*Ventilation (general, LEV...)</b> <b>*customized technical installation, etc.</b>	Organisational RMMs, including: <b>*Duration and Frequency of exposure</b> <b>*OSH management system</b> <b>*Supervision</b> <b>*Monitoring arrangements</b> <b>*Training, etc.</b>	PPE (characteristics)	Other conditions	Effective-ness of waste wa-ter and waste air treatment (for ERC)	Release factors: water, air and soil (for ERC)*	Detailed info. in CSR (section)
ECS1	ERC 2	0-300 000	<p>Formulation processes are conducted in a closed system and via closed lines</p> <p>All tanks and loading stations for trucks and ships are equipped with vapour return/balancing systems; exhaust gases are collected and sent to scrubbers</p> <p>From 2020 on: three scrubbers outlets connected to activated carbon filters, one further scrubber will be connected to thermal incinerator)</p> <p>90% of the pumps are magnetically</p>	<p>The combustion temperature of the thermal incinerator is permanently controlled to be sufficiently high in order to ensure the complete destruction of PAHs</p> <p>Flow, pH and phenol index of the water discharged into the canal is continuously monitored</p> <p>Official release permits for step-wise decrease of 16 EPA PAH emissions to water are available</p> <p>The amount of PAHs from WWTP2 is controlled two times per week via certified methods and the measurements are externally verified</p> <p>Apart from the online analysis, samples are taken from the wastewater treatment plant for lab analysis of BTEX, PAH, COD, BOD, etc.</p>	-	The whole formulation process is waterless	-	<p>Release rate to water: 0.157 g PAH/day</p> <p>Release rate air: 2.56 g PAH/day</p>	9.1.2

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			coupled and thereby have zero fugitive emissions  Rainwater from all paved of the plant is collected and purified in an on-site wastewater treatment plant (WWTP 2) before it is discharged into the canal						
WCS1	<b>PROC3 and PROC 8b</b>	-	Formulation processes are conducted in a closed system and via closed lines  All tanks and loading stations for trucks and ships are equipped with vapour return/balancing systems; exhaust gases are collected from all tanks and loading stations and	8 hours/day, but only partially dedicated to that use  A full instruction set is available to all employees (ISO 9001 / 14001 + OHSAS 18001 certified)  MSDSs are presented to all workers and always available.  A safety department is available on-site. All permits for routine and non-routine works are accessible at the safety department, wherein the PPEs for each operation are specified  The PPE is organized and distributed by the safety department; a central	Helmet  Gloves: either heavy duty SHOWA 720R nitrile gloves (thickness 1.1 mm; standard operator gloves for occasional contact) or a long sleeve version of the nitrile heavy duty glove (thickness 0.5 mm) or neoprene gloves (thickness 1.6 mm) with cotton jersey liner (Ansell Scorpio 09-022; for high temperature works) or Viton gloves (thickness 0.3 mm; in case of anticipated	T ≤30 °C	-	-	9.1.3

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			<p>sent to scrubbers</p> <p>Closed sampling systems for tar oil and pitch are used at sampling points</p> <p>Segregation during loading</p>	<p>storage is available and accessible at all times. Advice is provided to the workers on the appropriate equipment they need assigned to their job matrix</p> <p>The proper functioning of the PPE is regularly inspected and maintained by the safety inspector or external parties meeting at least the legal standards for periodicity</p> <p>The workers are provided with several sets of working clothes and encouraged to change them daily. The worn clothes are sent to an industrial cleaning service two times a week</p> <p>Regular exposure measurement campaigns are conducted</p> <p>Further details see CSR</p>	<p>more intense product contact)</p> <p>Respiratory protection: Full mask with filter ABEK P3; for operations that could lead to pitch vapours exposure</p>				
WCS2	<b>PROC15</b>	-	<p>Fume cupboards; flow control system installed</p> <p>Variable Air Flow System in the laboratory; number of renewals (air</p>	<p>8 hours/day, but only partially dedicated to that use</p> <p>Organisational measures: see above</p>	<p>One time nitrile lab gloves (when handling product); thickness 0.1 mm</p> <p>Lab coat or chemically resistant working clothes</p> <p>Safety glasses</p>	T ≤120 °C	-	-	9.1.4

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			change/h): 10-12						
WCS3	<b>PROC28</b>	-	The workshop (where dismantled technical equipment is repaired) is equipped with several countertops, each provided with a LEV pipe from the ceiling	8 hours/day, but only partially dedicated to that use Permit system for line opening Emptying of lines before opening Further organisational measures: see above	Gloves: Heavy duty nitrile rubber gloves; thickness 1.1 mm  Full mask (in case they have to perform an operation that could lead to pitch vapours exposure), filter ABEK P3  Chemically resistant coverall  Face shield  Safety goggles	T ≤30 °C	-	-	9.1.5