

FS Section	Content field	Explanation of content	CSR	eSDS
1. Title	1.1 Title of SPERC	Water treatment chemicals (industrial): solvent-borne	Y	Y
	1.2 SPERC code	ESVOC SPERC 3.22a.v3	Y	Y
2. Scope	<b>2.1 Substance/Product Domain</b>			
	Substance types / functions / properties included or excluded	Applicable to petroleum substances and petrochemicals.	Y	N
	Additional specification of product types covered:	Includes a variety of aliphatic and aromatic hydrocarbons, ketones, alcohols, acetates, glycols, glycol ethers, and glycol ether acetates.	Y	N
	Inclusion of sub-SPERCs	No	N	N
	<b>2.2 Process domain</b>			
	Description of activities/processes:	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.	Y	Y
	<b>2.3 List of applicable Use Descriptors</b>			
	LCS	IS – Use at industrial sites	Y	Y
	SU	SU0 – Other	Y	Y
PC	PC20 – Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents	Y	Y	
3. Operational conditions	<b>3.1 Conditions of use</b>			
	Location of use	Indoor	Y	Y
	Water contact during use	Yes	Y	Y
	Connected to a standard municipal biological STP	No, site specific biological STP with assumed discharge rate of municipal biological STP of >= 2000 m <sup>3</sup> /day	Y	Y
	Rigorously contained system with minimisation of release to the environment	No	Y	N
	Further operational conditions impacting on releases to the environment	Volatile compounds subject to air emission controls. Wastewater emissions generated from equipment cleaning with water.	Y	Y
	<b>3.2 Waste Handling and Disposal</b>			
	Waste Handling and Disposal:	Residual raw materials and are in some cases recycled and fed back into the process reactor to improve efficiencies. In other cases, residues and by-products are used as raw materials for other downstream applications (EEA, 2016). Wastewater generated during cleaning and maintenance operations is directed to a waste water treatment plant for biological degradation. Atmospheric release of waste vapour may be ameliorated using wet scrubbers, thermal oxidizers, solid adsorbents, membrane separators, biofilters, and/or cold oxidizers for trapping residual vapours. All unrecovered waste is handled as an industrial waste that can be incinerated. EU (2016). Best Available Techniques (BAT) Reference Document for Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector. Report EUR 28112 EN. European IPPC Bureau. Seville, Spain. <a href="http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf">http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf</a>	Y	N

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		EEA (2016). Prevention of hazardous waste in Europe — the status in 2015 European Environment Agency, Report No. 35/2016. Copenhagen, Denmark. <a href="https://www.eea.europa.eu/publications/waste-prevention-in-europe/file">https://www.eea.europa.eu/publications/waste-prevention-in-europe/file</a>		
4. Obligatory RMMs onsite	RMM limiting release to air:	No obligatory RMMs.	Y	Y
	RMM Efficiency (air):	Optional RMMs have been assigned a nominal removal efficiency value that is not accounted for in the air release factor. See the background document for more information.	Y	Y
	Reference for RMM Efficiency (air):	EU (2016). Best Available Techniques (BAT) Reference Document for Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector. Report EUR 28112 EN. European IPPC Bureau. Seville, Spain. <a href="http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf">http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf</a>	Y	N
	RMM limiting release to water:	Oil-water separation (e.g. via oil water separators, oil skimmers, or dissolved air flotation) is required.	Y	Y
	RMM Efficiency (water):	The efficiency of this RMM varies dependent on the treatment technology and the properties of the substance.	Y	Y
	Reference for RMM Efficiency (water):	EU (2016). Best Available Techniques (BAT) Reference Document for Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector. Report EUR 28112 EN. European IPPC Bureau. Seville, Spain. <a href="http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf">http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf</a>	Y	N
	RMM limiting release to soil:	The sludge generated from wastewater treatment is not applied to agricultural soil.	Y	Y
	RMM Efficiency (soil):	Not applicable	Y	Y
	Reference for RMM Efficiency (soil):	ECHA (2016). <a href="https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf">Guidance on Information Requirements and Chemical Safety Assessment. Chapter R.16: Environmental Exposure Assessment</a> Version 3.0. European Chemicals Agency. Helsinki, Finland. <a href="https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf">https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf</a>	Y	N
5. Exposure Assessment Input	5.1 Substance use rate			
	Amount of substance use per day:	100 kg/day	Y	Y
	Fraction of EU tonnage used in region:	100%	Y	N
	Fraction of Regional tonnage used locally:	100%	Y	N
	Justification / information source:	ECHA (2016). <a href="https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf">Guidance on Information Requirements and Chemical Safety Assessment. Chapter R.16: Environmental Exposure Assessment</a> Version 3.0. European Chemicals Agency. Helsinki, Finland. <a href="https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf">https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf</a>	Y	N
	5.2 Days emitting			
	Number of emission days per year:	300 (professional judgement)	Y	Y
	Justification / information source:	CEFIC (2012). Cefic Guidance Specific Environmental Release Categories (SPERCs) Chemical Safety Assessments, Supply Chain Communication and Downstream User Compliance. Revision 2, European Chemical Industry Council, Brussels, Belgium, <a href="http://www.cefic.org/Documents/IndustrySupport/REACH-Implementation/Guidance-and-Tools/SPERCs-Specific-Environmental-Release-Classes.pdf">http://www.cefic.org/Documents/IndustrySupport/REACH-Implementation/Guidance-and-Tools/SPERCs-Specific-Environmental-Release-Classes.pdf</a>	Y	N
	5.3 Release factors			

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	<b>sub-SPERC identifier:</b>	ESVOC 3.22a.v3	Y	N
	ERC	ERC 4		
	sub-SPERC applicability:	None	Y	N
<b>5.3.1 Release Factor – air</b>				
	<b>Numeric value / percent of input amount (Air)</b>	0.03%	Y	Y
	<b>Justification of RFs (Air):</b>	The factor was determined using the SimpleTreat model to determine the release to air and water for a representative non-biodegradable chemical used as a flocculant in a wastewater treatment plant. The model simulation considered the distribution of the chemical to air, water, and sludge RIVM (2015). Application of SimpleTreat 4.0 in European Substance Regulations. Bilthoven, The Netherlands. <a href="https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/texte_13_2015_application_of_simple_treat_4.0.pdf">https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/texte_13_2015_application_of_simple_treat_4.0.pdf</a>	Y	N
<b>5.3.2 Release Factor – water</b>				
	<b>Numeric value / percent of input amount (Water):</b>	82%	Y	Y
	<b>Justification of RFs (Water):</b>	The factor was determined using the SimpleTreat model to determine the release to air and water for a representative non-biodegradable chemical used as a flocculant in a wastewater treatment plant. The model simulation considered the distribution of the chemical to air, water, and sludge RIVM (2015). Application of SimpleTreat 4.0 in European Substance Regulations. Bilthoven, The Netherlands. <a href="https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/texte_13_2015_application_of_simple_treat_4.0.pdf">https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/texte_13_2015_application_of_simple_treat_4.0.pdf</a>	Y	N
<b>5.3.3 Release Factor – soil</b>				
	<b>Numeric value / percent of input amount (Soil):</b>	0.0%	Y	Y
	<b>Justification of RFs (Soil):</b>	The approach used to assign this value is largely qualitative in nature and takes advantage of the sector knowledge and professional judgement of individuals within the expert group responsible for creating this SpERC factsheet. The determinations employ an informed decision-making process that is ultimately reviewed and agreed upon by a broad group of knowledgeable specialists within the sector organization (CEFIC, 2012). CEFIC (2012). Cefic Guidance Specific Environmental Release Categories (SPERCs) Chemical Safety Assessments, Supply Chain Communication and Downstream User Compliance. Revision 2, European Chemical Industry Council, Brussels, Belgium. <a href="http://www.cefic.org/Documents/IndustrySupport/REACH-Implementation/Guidance-and-Tools/SPERCs-Specific-Environmental-Release-Classes.pdf">http://www.cefic.org/Documents/IndustrySupport/REACH-Implementation/Guidance-and-Tools/SPERCs-Specific-Environmental-Release-Classes.pdf</a>	Y	N
<b>5.3.4 Release Factor – waste</b>				
	<b>Percent of input amount disposed as waste:</b>	0.1%	Y	N
	<b>Justification of RFs:</b>	The waste generation factor was taken from a life cycle assessment for the closed-loop production of office paper from recycled paper feedstock (DEFRA, 2012). The value represents the amount of industrial waste generated during pulp and paper production at a facility in Germany. An uncertainty factor has not been applied to the cited value since the facility is representative of the operations at other facilities using water treatment chemicals. DEFRA (2012). Streamlined LCA of Paper Supply Stream. Department for Environment Food & Rural Affairs. London, United Kingdom.	Y	N

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		<a href="http://randd.defra.gov.uk/Default.aspx?Menu=Menu&amp;Module=More&amp;Location=None&amp;Completed=0&amp;ProjectID=18956">http://randd.defra.gov.uk/Default.aspx?Menu=Menu&amp;Module=More&amp;Location=None&amp;Completed=0&amp;ProjectID=18956</a>		
<b>References to SPERC Background Document</b>				
	Reference to Background Document	ESIG/ESVOC (2019). SpERC Background Document. Specific Environmental Release Categories (SpERCs) for the use of solvents and solvent borne substances in the industrial production and/or use of water treatment chemicals, polymers, mining chemicals, and fuels. European Solvents Industry Group. Brussels, Belgium.	Y	N