FS Section	Content field	Explanation of content	CSR	eSDS	
1. Title	1.1 Title of SPERC	Functional fluid use (professional): solvent-borne	Y	Y	
	1.2 SPERC code	ESVOC SPERC 9.13b.v3	Υ	Y	
	2.1 Substance/Product Domain				
	Substance types / functions / properties included or excluded	Applicable to petroleum substances and petrochemicals.	Υ	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.	Υ	N	
	Inclusion of sub-SPERCs	No	N	N	
2. Scope	2.2 Process domain				
2. ocope	Description of activities/processes:	Use as functional fluids (e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids (in professional equipment including maintenance and related material transfers and use of similar sealed items containing functional fluids for consumers.	Y	Y	
	2.3 List of applicable Use Descriptors				
	LCS	PW – Widespread use by professional workers	Υ	Y	
	su	SU0 – Other	Υ	Y	
	PC	PC16 – Heat transfer fluids	Υ	Y	
	3.1 Conditions of use				
	Location of use	Indoor/Outdoor	Υ	Y	
	Water contact during use	Yes	Υ	Y	
	Connected to a standard municipal biological STP	Yes	Υ	Y	
	Rigorously contained system with minimisation of release to the environment	No	Υ	N	
	Further operational conditions impacting on releases to the environment	Volatile compounds prone to atmospheric release. Wastewater emissions generated from equipment cleaning with water.	Y	Υ	
3. Operational conditions	3.2 Waste Handling and Disposal				
	Waste Handling and Disposal:	Unused and spent products and solutions should be appropriately labelled and stored for eventual recovery or disposal as hazardous waste. A suitable unbreakable and closable container should be used when storing and shipping hazardous materials. The containers must be solvent compatible, leakproof, and free of any defects. Contamianted debris such as disposable paper towels, brushes, rollers, masks, transfer vessels, and wipes that may contain small amounts of solvent residue need to be handled as hazardous waste and properly disposed of in a manner that is consistent with local, regional, and national regulations. Direct disposal of waste into a municipal sewer system needs to conform with all applicable laws and regulations. A spill plan needs to be available that outlines the steps to be taken to minimize any potential health and environmental threats. EPA (2001). Managing Your Hazardous Waste: A Guide for Small Businesses. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. Washington, DC. https://www.epa.gov/sites/production/files/2014-12/documents/k01005.pdf.	Y	N	

FS Section	Content field	Explanation of content	CSR	eSDS
4. Obligatory RMMs onsite	RMM limiting release to air:	No obligatory RMMs.	Y	Y
	RMM Efficiency (air):	Emissions to air are minimized when the product is used in accordance with the manufacturers' instructions and established practices.	Υ	Y
	Reference for RMM Efficiency (air):	Danfoss, 2016. Technical Information: Hydraulic Fluids and Lubricants Oils, Lubricants, Grease, Jelly. Danfoss Power Solutions GmbH. Neumunster, Germany. http://files.danfoss.com/documents/520L0463.pdf.	Υ	N
	RMM limiting release to water:	By default, the release to water is modified after biological treatment at a standard municipal sewage treatment plant (STP) with an effluent flow rate of 2,000 m³/day. The effluent discharge rate is applicable to a group of 10,000 inhabitants who generate 200 L of wastewater per person.	Y	Y
	RMM Efficiency (water):	The removal efficiency is provided by the SimpleTreat model, which takes into consideration the biodegradability, partitioning behaviour, and volatility of an organic substance. Degradation assumes the operation of an aerobic activated-sludge reactor under steady-state conditions.	Y	Y
	Reference for RMM Efficiency (water):	ECHA (2016). Guidance on Information Requirements and Chemical Safety Assessment. Chapter R.16: Environmental Exposure Assessment Version 3.0. European Chemicals Agency. Helsinki, Finland. https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf	Y	N
	RMM limiting release to soil:	No obligatory RMMs.	Y	Y
	RMM Efficiency (soil):	Emissions to air are minimized when the product is used in accordance with the manufacturers' instructions and established practices.	Υ	Y
	Reference for RMM Efficiency (soil):	Danfoss, 2016. Technical Information: Hydraulic Fluids and Lubricants Oils, Lubricants, Grease, Jelly. Danfoss Power Solutions GmbH. Neumunster, Germany. http://files.danfoss.com/documents/520L0463.pdf.	Υ	N
	5.1 Substance use rate			
	Amount of substance use per day:	Supplied by registrant	Υ	Y
	Fraction of EU tonnage used in region:	10% (default value)	Υ	N
	Fraction of Regional tonnage used locally:	0.05% (default value)	Υ	N
	Justification / information source:	ECHA (2016). Guidance on Information Requirements and Chemical Safety Assessment. Chapter R.16: Environmental Exposure Assessment Version 3.0. European Chemicals Agency. Helsinki, Finland. https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf	Y	N
	5.2 Days emitting			
5. Exposure Assessment	Number of emission days per year:	365 (default value)	Y	Y
Assessment Input	Justification / information source:	ECHA, 2016. Guidance on Information Requirements and Chemical Safety Assessment. Chapter R.16: Environmental Exposure Assessment Version 3.0. European Chemicals Agency. Helsinki, Finland. https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf	Y	N
	5.3 Release factors			
	sub-SPERC identifier:	ESVOC 9.13b.a.v3 VP >1000 Pa	Υ	N
	ERC	ERC 9a ERC 9b		
	sub-SPERC applicability:	Vapour pressure >1000 Pa	Υ	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air)	1.0%	Υ	Y

FS Section	Content field	Explanation of content	CSR	eSDS
	Justification of RFs (Air):	This value has been adopted from a published source that documents the worst-case estimates of air emissions based on the expert judgement of environmental scientists from the Dutch National Institute for Public Health and the Environment (RIVM). European Commission (2003). European Commission Technical Guidance Document on Risk Assessment (EUTGD), Report EUR 20418 EN/2, Appendix 1, Table A3.8, Brussels, Belgium. (https://echa.europa.eu/documents/10162/16960216/tgdpart2_2ed_en.pdf)	Υ	N
	5.3.2 Release Factor – water			
	Numeric value / percent of input amount (Water):	9% The identification of a water release factor takes advantage of information	Y	Y
	Justification of RFs (Water):	contained in an emission scenario document examining the use of hydraulic fluids in off-road and agricultural applications. The identified water release for eight different types of fluid were averaged to arrive at a representative value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=en_y/im/mono(2004)21&doclanguage=en.	Y	N
	5.3.3 Release Factor – soil			
	Numeric value / percent of input amount (Soil):	8%	Y	Υ
	Justification of RFs (Soil):	The identification of a soil release factor also takes advantage of information contained in an emission scenario document focusing on the use of hydraulic fluids in off-road and agricultural applications. The identified soil release for eight different types of fluid were averaged to arrive at the reported value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=en_v/im/mono/2004)21&doclanguage=en.	Y	N
	5.3.4 Release Factor – waste	Will/mono(200+)2 radocianguage=cii.		
	Percent of input amount disposed	20%	Y	N
	as waste: Justification of RFs:	The quoted value was derived from an Emissions Scenario Document that examined the production of chemical waste during the use of neat cutting oils (OECD, 2004). A waste generation factor of 2% was associated with the adhesion of residual fluid to the metal parts being processed. An uncertainty factor of 10 has been applied to this value to account for the mishandling that may accompany the wide dispersive use of these oils. OECD (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/im/mono(2004)21&doclanguage=en.	Y	N
	sub-SPERC identifier:	ESVOC 9.13b.b.v3 VP 100-1000 Pa	Υ	N
	ERC	ERC 9a ERC 9b		
	sub-SPERC applicability:	Vapour pressure 100-1000 Pa	Υ	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air):	0.5%	Υ	Υ
	Justification of RFs (Air):	This value has been adopted from a published source that documents the worst-case estimates of air emissions based on the expert judgement of	Υ	N

FS Section	Content field	Explanation of content	CSR	eSDS
		environmental scientists from the Dutch National Institute for Public Health and the Environment (RIVM). European Commission (2003). European Commission Technical Guidance Document on Risk Assessment (EUTGD), Report EUR 20418 EN/2, Appendix 1, Table A3.8, Brussels, Belgium. (https://echa.europa.eu/documents/10162/16960216/tgdpart2_2ed_en.pdf)		
	5.3.2 Release Factor – water			
	Numeric value / percent of input amount (Water):	9%	Υ	Υ
	Justification of RFs (Water):	The identification of a water release factor takes advantage of information contained in an emission scenario document examining the use of hydraulic fluids in off-road and agricultural applications. The identified water release for eight different types of fluid were averaged to arrive at a representative value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/im/mono(2004)21&doclanguage=en.	Y	N
	5.3.3 Release Factor – soil	Minimono(2007)2 Tadoolangaago on.		
	Numeric value / percent of input amount (Soil):	8%	Υ	Υ
	Justification of RFs (Soil):	The identification of a soil release factor also takes advantage of information contained in an emission scenario document focusing on the use of hydraulic fluids in off-road and agricultural applications. The identified soil release for eight different types of fluid were averaged to arrive at the reported value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/im/mono(2004)21&doclanguage=en.	Y	N
	5.3.4 Release Factor – waste			
	Percent of input amount disposed as waste:	20%	Y	N
	Justification of RFs:	The quoted value was derived from an Emissions Sceanrio document that examined the production of chemical waste during the use of neat cutting oils in an industrial operation (OECD, 2004). A waste generation factor of 2% was associated with the adhesion of residual fluid to the metal parts being processed. An uncertainty factor of 10 has been applied to this value to account for the mishandling that may accompany the wide dispersive use of these oils. OECD (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/im/mono(2004)21&doclanguage=en.	Y	N
	sub-SPERC identifier:	ESVOC 9.13b.c.v3 VP 10-100 Pa	Υ	N
	ERC	ERC 9a ERC 9b		
	sub-SPERC applicability:	Vapour pressure 10-100 Pa	Υ	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air):	0.1%	Υ	Υ
	Justification of RFs (Air):	This value has been adopted from a published source that documents the worst-case estimates of air emissions based on the expert judgement of environmental scientists from the Dutch National Institute for Public Health and the Environment (RIVM).	Y	N

FS Section	Content field	Explanation of content	CSR	eSDS		
		European Commission (2003). European Commission Technical Guidance Document on Risk Assessment (EUTGD), Report EUR 20418 EN/2, Appendix 1, Table A3.8, Brussels, Belgium. (https://echa.europa.eu/documents/10162/16960216/tgdpart2_2ed_en.pdf)				
	5.3.2 Release Factor – water					
	Numeric value / percent of input amount (Water):	9%	Υ	Y		
	Justification of RFs (Water):	The identification of a water release factor takes advantage of information contained in an emission scenario document examining the use of hydraulic fluids in off-road and agricultural applications. The identified water release for eight different types of fluid were averaged to arrive at a representative value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2004)21&doclanguage=en.	Y	N		
	5.3.3 Release Factor – soil					
	Numeric value / percent of input amount (Soil):	8%	Υ	Υ		
	Justification of RFs (Soil):	The identification of a soil release factor also takes advantage of information contained in an emission scenario document focusing on the use of hydraulic fluids in off-road and agricultural applications. The identified soil release for eight different types of fluid were averaged to arrive at the reported value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=en_y/im/mono(2004)21&doclanguage=en.	Y	N		
	5.3.4 Release Factor – waste	· · · · · · · · · · · · · · · · · · ·				
	Percent of input amount disposed as waste:	20%	Υ	N		
	Justification of RFs:	The quoted value was derived from an Emissions Sceanrio document that examined the production of chemical waste during the use of neat cutting oils in an industrial operation (OECD, 2004). A waste generation factor of 2% was associated with the adhesion of residual fluid to the metal parts being processed. An uncertainty factor of 10 has been applied to this value to account for the mishandling that may accompany the wide dispersive use of these oils. OECD (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=e http://www.oecd.org/officialdocumentpdf/?cote=e http://www.oecd.or	Υ	N		
	sub-SPERC identifier:	ESVOC 9.13b.d.v VP 1-10 Pa	Υ	N		
	ERC	ERC 9a ERC 9b				
	sub-SPERC applicability:	Vapour pressure 1-10 Pa	Υ	N		
	5.3.1 Release Factor – air					
	Numeric value / percent of input amount (Air):	0.05%	Y	Υ		
	Justification of RFs (Air):	This value has been adopted from a published source that documents the worst-case estimates of air emissions based on the expert judgement of environmental scientists from the Dutch National Institute for Public Health and the Environment (RIVM).	Y	N		

FS Section	Content field	Explanation of content	CSR	eSDS		
		European Commission (2003). European Commission Technical Guidance Document on Risk Assessment (EUTGD), Report EUR 20418 EN/2, Appendix 1, Table A3.8, Brussels, Belgium. (https://echa.europa.eu/documents/10162/16960216/tgdpart2_2ed_en.pdf)				
	5.3.2 Release Factor – water					
	Numeric value / percent of input amount (Water):	9%	Y	Y		
	Justification of RFs (Water):	The identification of a water release factor takes advantage of information contained in an emission scenario document examining the use of hydraulic fluids in off-road and agricultural applications. The identified water release for eight different types of fluid were averaged to arrive at a representative value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/im/mono(2004)21&doclanguage=en.	Y	N		
	5.3.3 Release Factor – soil					
	Numeric value / percent of input amount (Soil):	8%	Y	Υ		
	Justification of RFs (Soil):	The identification of a soil release factor also takes advantage of information contained in an emission scenario document focusing on the use of hydraulic fluids in off-road and agricultural applications. The identified soil release for eight different types of fluid were averaged to arrive at the reported value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=en_v/im/mono(2004)21&doclanguage=en.	Y	N		
	5.3.4 Release Factor – waste					
	Percent of input amount disposed as waste:	20%	Υ	N		
	Justification of RFs:	The quoted value was derived from an Emissions Sceanrio document that examined the production of chemical waste during the use of neat cutting oils in an industrial operation (OECD, 2004). A waste generation factor of 2% was associated with the adhesion of residual fluid to the metal parts being processed. An uncertainty factor of 10 has been applied to this value to account for the mishandling that may accompany the wide dispersive use of these oils. OECD (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2004)21&doclanguage=en.	Υ	N		
	sub-SPERC identifier:	ESVOC 9.13b.e.v3 VP <1 Pa	Y	N		
	ERC	ERC 9a ERC 9b				
	sub-SPERC applicability:	Vapour pressure <1 Pa	Υ	N		
	5.3.1 Release Factor – air					
	Numeric value / percent of input amount (Air):	0.01%	Υ	Y		
	Justification of RFs (Air):	This value has been adopted from a published source that documents the worst-case estimates of air emissions based on the expert judgement of environmental scientists from the Dutch National Institute for Public Health and the Environment (RIVM).	Y	N		

FS Section	Content field	Explanation of content	CSR	eSDS
		European Commission (2003). European Commission Technical Guidance Document on Risk Assessment (EUTGD), Report EUR 20418 EN/2, Appendix 1, Table A3.8, Brussels, Belgium. (https://echa.europa.eu/documents/10162/16960216/tgdpart2_2ed_en.pdf)		
	5.3.2 Release Factor – water			
	Numeric value / percent of input amount (Water):	9%	Y	Y
	Justification of RFs (Water):	The identification of a water release factor takes advantage of information contained in an emission scenario document examining the use of hydraulic fluids in off-road and agricultural applications. The identified water release for eight different types of fluid were averaged to arrive at a representative value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/im/mono(2004)21&doclanguage=en.	Y	N
	5.3.3 Release Factor – soil			
	Numeric value / percent of input amount (Soil):	8%	Υ	Y
	Justification of RFs (Soil):	The identification of a soil release factor also takes advantage of information contained in an emission scenario document focusing on the use of hydraulic fluids in off-road and agricultural applications. The identified soil release for eight different types of fluid were averaged to arrive at the reported value. OECD, (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2004)21&doclanguage=en.	Y	N
	5.3.4 Release Factor – waste			
	Percent of input amount disposed as waste:	20%	Υ	N
	Justification of RFs:	The quoted value was derived from an Emissions Sceanrio document that examined the production of chemical waste during the use of neat cutting oils in an industrial operation (OECD, 2004). A waste generation factor of 2% was associated with the adhesion of residual fluid to the metal parts being processed. An uncertainty factor of 10 has been applied to this value to account for the mishandling that may accompany the wide dispersive use of these oils. OECD (2004). Emission Scenario Documents on Lubricants and Lubricant Additives. No. 10, Organisation for Economic Co-operation and Development. Paris, France. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2004)21&doclanguage=en.	Y	N
References to S	SPERC Background Document			
	Reference to Background Document	ESIG/ESVOC (2023). SpERC Background Document. Specific Environmental Release Categories (SpERCs) for the professional use of solvents and solvent-borne substances as binding agents, cleaning agents, and functional fluids. European Solvents Industry Group. Brussels, Belgium.	Y	N