FS Section	Content field	Explanation of content	CSR	eSDS
1. Title	**1.1 Title of SPERC**	Use as a fuel (industrial): solvent-borne	Y	Y
	1.2 SPERC code	ESVOC SPERC 7.12a.v3	Y	Y
2. Scope	**2.1 Substance/Product Domain**			
	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	Yes	N	N
	2.2 Process domain			
	Description of activities/processes:	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	Y	Y
	2.3 List of applicable Use Descriptors			
	LCS	IS – Use at industrial sites	Y	Y
	SU	SU8 – Manufacture of bulk large-scale chemicals (including petroleum products)	Y	Y
	PC	PC13 – Fuels	Y	Y
3. Operational conditions	**3.1 Conditions of use**			
	Location of use	Indoor	Y	Y
	Water contact during use	Yes	Y	Y
	Connected to a standard municipal biological STP	No, site specifc biological STP with assumed discharge rate of municipal biological STP of >= 2000 m^3/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
	3.2 Waste Handling and Disposal			
	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. http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf	Y	N

FS Section	Content field	Explanation of content	CSR	eSDS
		EEA (2016). Prevention of hazardous waste in Europe — the status in 2015 European Environment Agency, Report No. 35/2016. Copenhagen, Denmark. https://www.eea.europa.eu/publications/waste-prevention-in-europe/file		
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. http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf	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. http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf	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). 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. Exposure Assessment Input	**5.1 Substance use rate**			
	Amount of substance use per day:	5,000,000 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). 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			
	Number of emission days per year:	300 (default value)	Y	Y
	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			

FS Section	Content field	Explanation of content	CSR	eSDS
	sub-SPERC identifier:	ESVOC 7.12a.a.v3 VP >1000 Pa	Y	N
	ERC	ERC 7		
	sub-SPERC applicability:	Vapour pressure >1000 Pa	Y	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air)	5.0%	Y	Y
	Justification of RFs (Air):	The value has been adopted from an authoritative literature source that documents the release factors for each environmental release category (ERC). The preceding value corresponds to to the default air release factor for the industrial use of a functional fluid (ERC 7). ECHA (2016). Guidance on Information Requirements and Chemical Safety Assessment Chapter R.16: Environmental exposure assessment Version 3.0. Appendix A.16-1. Helsinki, Finland. https://echa.europa.eu/documents/10162/13632/information_requirements_r16_en.pdf	Y	N
	5.3.2 Release Factor – water			
	Numeric value / percent of input amount (Water):	0.001%	Y	Y
	Justification of RFs (Water):	The factor considers the results from a life cycle assessment for heavy fuel use in a power plant. The analysis includes an examination of the release of unspecified hydrocarbons and oils to wastewater. IEA (2017). Water Footprint of European Rooftop Photovoltaic Electricity based on Regionalised Life Cycle Inventories. Report IEA-PVPS T12-11:2017, International Energy Agency. Ursen, Switzerland. http://www.iea-pvps.org/index.php?id=462	Y	N
	5.3.3 Release Factor – soil			
	Numeric value / percent of input amount (Soil):	0.0%	Y	Y
	Justification of RFs (Soil):	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, http://www.cefic.org/Documents/IndustrySupport/REACH-Implementation/Guidance-and-Tools/SPERCs-Specific-Envirnonmental-Release-Classes.pdf	Y	N
	5.3.4 Release Factor – waste			
	Percent of input amount disposed as waste:	2%	Y	N
	Justification of RFs:	The waste factor has been taken from a life cycle assessment of gasoline production and use in passenger cars (Morales, 2015). The evaluation revealed that 2.1 ml of hazardous waste was incinerated per km driven. The stated fuel mileage of 150 ml/km yields a waste release factor of 1.4%, which was rounded upward to 2%. An uncertainty factor has not been applied to this value since the waste associated with industrial fuel use is expected to less than the value obtained for this comprehensive analysis.	Y	N

FS Section	Content field	Explanation of content	CSR	eSDS
		Morales, M. et al. (2015). Life cycle assessment of gasoline production and use in Chile. *Science of the Total Environment* 505, 833-843.		
	sub-SPERC identifier:	ESVOC 7.12a.b.v3 VP <1000 Pa	Y	N
	ERC	ERC 7		
	sub-SPERC applicability:	Vapour pressure <1000 Pa	Y	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air):	0.6%	Y	Y
	Justification of RFs (Air):	The factor is based on an examination of the hydrocarbons releases that accompany the use of diesel fuel to power generators. The energy from these units was used to power industrial spinning, weaving, printing, and dying operations. Okedere, O.B., Fakinle, B.S., Sonibare, J.A. (2015). Ground level concentrations of hydrocarbon emissions from diesel fueled electric power generators. *Global NEST Journal* 17, 673-681.	Y	N
	5.3.2 Release Factor – water			
	Numeric value / percent of input amount (Water):	0.001%	Y	Y
	Justification of RFs (Water):	The factor considers the results from a life cycle assessment for heavy fuel use in a power plant. The analysis includes an examination of the release of unspecified hydrocarbons and oils to wastewater. IEA (2017). Water Footprint of European Rooftop Photovoltaic Electricity based on Regionalised Life Cycle Inventories. Report IEA-PVPS T12-11:2017, International Energy Agency. Ursen, Switzerland. http://www.iea-pvps.org/index.php?id=462	Y	N
	5.3.3 Release Factor – soil			
	Numeric value / percent of input amount (Soil):	0.0%	Y	Y
	Justification of RFs (Soil):	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, http://www.cefic.org/Documents/IndustrySupport/REACH-Implementation/Guidance-and-Tools/SPERCs-Specific-Envirnonmental-Release-Classes.pdf	Y	N
	5.3.4 Release Factor – waste			
	Percent of input amount disposed as waste:	2%	Y	N
	Justification of RFs:	The waste factor has been taken from a life cycle assessment of gasoline production and use in passenger cars (Morales, 2015). The evaluation revealed that 2.1 ml of hazardous waste was incinerated per km driven. The stated fuel mileage of 150 ml/km yields a waste release factor of 1.4%, which was rounded upward to 2%. An uncertainty factor has not been applied to this value since the waste associated with industrial fuel use is expected to less than the value obtained for this comprehensive analysis.	Y	N

FS Section	Content field	Explanation of content	CSR	eSDS
		Morales, M. et al. (2015). Life cycle assessment of gasoline production and use in Chile. *Science of the Total Environment* 505, 833-843.		
References to SPERC Background Document				
	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