FS Section	Content field	Explanation of content	CSR[1]	eSDS[2]
1. Title	**1.1 Title of SPERC**	Use as a fuel (professional): solvent-borne	Y	Y
	1.2 SPERC code	ESVOC SPERC 9.12b.v2	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 and consumer uses in liquid fuels.	Y	Y
	2.3 List of applicable Use Descriptors			
	LCS	PW – Widespread use by professional workers	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/Outdoor	Y	Y
	Water contact during use	Yes	Y	Y
	Connected to a standard municipal biological STP	Yes	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 prone to atmospheric release. Wastewater emissions generated from equipment cleaning with water.	Y	Y
	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. Contaminated 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	Y	N

[1] Explanations that are more detailed can be provided for the CSR..

[2] For the ES for communication a standard phrase may be selected from the ESCom catalogue when available. When no phrase is available yet in the catalogue the proposed phrase can be reported here.

FS Section	Content field	Explanation of content	CSR[1]	eSDS[2]
		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.		
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 specifications.	Y	Y
	Reference for RMM Efficiency (air):	TSSA (2018). Procedure for the Handling of Fuel at Construction Sites. Technical Standards and Safety Authority, Civil Engineerng Sector Lsabour-Management Health and Safety Committee. Toronto, Canada.	Y	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 m^3/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 soil are minimized when the product is used in accordance with the manufacturers' instructions and specifications.	Y	Y
	Reference for RMM Efficiency (soil):	TSSA (2018). Procedure for the Handling of Fuel at Construction Sites. Technical Standards and Safety Authority, Civil Engineerng Sector Lsabour-Management Health and Safety Committee. Toronto, Canada.	Y	N
5. Exposure Assessment Input	**5.1 Substance use rate**			
	Amount of substance use per day:	Supplied by registrant	Y	Y
	Fraction of EU tonnage used in region:	10% (default value)	Y	N
	Fraction of Regional tonnage used locally:	0.05% (default value)	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:	365 (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[1]	eSDS[2]
	sub-SPERC identifier:	ESVOC 9.12b.a.v2 VP >5000 Pa	Y	N
	ERC	ERC 9a ERC 9b		
	sub-SPERC applicability:	Vapour pressure >5000 Pa	Y	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air)	1.0%	Y	Y
	Justification of RFs (Air):	The value has been derived from published emission factors for the combustion of different fuel types; including diesel fuel, refinery fuel oil, and gas oil (CONCAWE, 2017). The values reported as grams per gigajoule were converted to grams emitted per gram of fuel combusted by applying an adjustment for the net calorific value associated with different fuel types. **(NB the preceding rationale differs from explanation provided in the original factsheet since it describes personal communications with CONCAWE that cannot be corroborated.)** CONCAWE (2017). Air Pollutant Emission Estimation Methods for E-PRTR Reporting by Refineries: 2017 Edition. Report No. 4/17, Conservation of Clean Air and Water in Europe. Brussels, Belgium. https://www.concawe.eu/wp-content/uploads/2017/04/Rpt_17-4.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 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). **[NB the original factsheet did not include any rationale for the derivation of this value. A modelling study by Tiberi, 2009 at a service station in Washington indicated that the fugitive release to groundwater was 0.02% which seems to be a more reasonable estimate than the value cited above.)** 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
	5.3.3 Release Factor – soil			
	Numeric value / percent of input amount (Soil):	0.001%	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). **[NB the original factsheet did not include any rationale for the derivation of this value. A survey by Morgester et al., 1992 at multiple California service stations indicated that the release to soil from fuel refilling spills is closer to 0.01% rather than the value cited above.)**	Y	N

FS Section	Content field	Explanation of content	CSR[1]	eSDS[2]
		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		
	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. Morales, M. et al. (2015). Life cycle assessment of gasoline production and use in Chile. Science of the Total Environment 505, 833-843.	Y	N
	sub-SPERC identifier:	ESVOC 9.12b.b.v2 VP 500-5000 Pa	Y	N
	ERC	ERC 9a ERC 9b		
	sub-SPERC applicability:	Vapour pressure 500-5000 Pa	Y	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air):	0.1%	Y	Y
	Justification of RFs (Air):	The value has been derived from published emission factors for the combustion of different fuel types; including diesel fuel, refinery fuel oil, and gas oil (CONCAWE, 2017). The values reported as grams per gigajoule were converted to grams emitted per gram of fuel combusted by applying an adjustment for the net calorific value associated with different fuel types. **(NB The preceding rationale differs from explanation provided in the original factsheet since it describes personal communications with CONCAWE that cannot be corroborated.)** CONCAWE (2017). Air Pollutant Emission Estimation Methods for E-PRTR Reporting by Refineries: 2017 Edition. Report No. 4/17, Conservation of Clean Air and Water in Europe. Brussels, Belgium. https://www.concawe.eu/wp-content/uploads/2017/04/Rpt_17-4.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 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). **[NB The original factsheet did not include any rationale for the derivation of this value. A modelling study by Tiberi, 2009 at a service station in Washington indicated that the fugitive release to groundwater was 0.02% which seems to be a more reasonable estimate than the value cited above.)**	Y	N

FS Section	Content field	Explanation of content	CSR[1]	eSDS[2]
		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		
	5.3.3 Release Factor – soil			
	Numeric value / percent of input amount (Soil):	0.001%	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). **[NB The original factsheet did not include any rationale for the derivation of this value. A survey by Morgester et al., 1992 at multiple California service stations indicated that the release to soil from fuel refilling spills is closer to 0.01% rather than the value cited above.)** 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. Morales, M. et al. (2015). Life cycle assessment of gasoline production and use in Chile. Science of the Total Environment 505, 833-843.	Y	N
	sub-SPERC identifier:	ESVOC 9.12b.c.v2 VP <500 Pa	Y	N
	ERC	ERC 9a ERC 9b		
	sub-SPERC applicability:	Vapour pressure <500 Pa	Y	N
	5.3.1 Release Factor – air			
	Numeric value / percent of input amount (Air):	0.01%	Y	Y
	Justification of RFs (Air):	The value has been derived from published emission factors for the combustion of different fuel types; including diesel fuel, refinery fuel oil, and gas oil (CONCAWE, 2017). The values reported as grams per gigajoule were converted to grams emitted per gram of fuel combusted by applying an adjustment for the net calorific value associated with different fuel types.	Y	N

FS Section	Content field	Explanation of content	CSR[1]	eSDS[2]
		(NB The preceding rationale differs from explanation provided in the original factsheet since it describes personal communications with CONCAWE that cannot be corroborated.) CONCAWE (2017). Air Pollutant Emission Estimation Methods for E-PRTR Reporting by Refineries: 2017 Edition. Report No. 4/17, Conservation of Clean Air and Water in Europe. Brussels, Belgium. https://www.concawe.eu/wp-content/uploads/2017/04/Rpt_17-4.pdf.		
	5.3.2 Release Factor – water			
	Numeric value / percent of input amount (Water):	0.001%	Y	Y
	Justification of RFs (Water):	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). **[NB The original factsheet did not include any rationale for the derivation of this value. A modelling study by Tiberi, 2009 at a service station in Washington indicated that the fugitive release to groundwater was 0.02% which seems to be a more reasonable estimate than the value cited above.)** 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
	5.3.3 Release Factor – soil			
	Numeric value / percent of input amount (Soil):	0.001%	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). **[NB The original factsheet did not include any rationale for the derivation of this value. A survey by Morgester et al., 1992 at multiple California service stations indicated that the release to soil from fuel refilling spills is closer to 0.01% rather than the value cited above.)** 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	Y	N

FS Section	Content field	Explanation of content	CSR[1]	eSDS[2]
		use is expected to less than the value obtained for this comprehensive analysis. 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 (1st draft). Specific Environmental Release Categories (SpERCs) for the professional use of solvents and solvent-borne substances in high release lubricants, metalworking fluids, fuels, and low release lubricants. European Solvents Industry Group. Brussels, Belgium.	Y	N