

- FS Section	Content field	Explanation of content	CSR ¹	eSDS ²
1. Title	1.1 Title of SPERC	De-icing applications (consumer): solvent-borne	Y	Y
	1.2 SPERC code	ESVOC SPERC 8.14b.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	No	N	N
	2.2 Process domain			
	Description of activities/processes:	Covers use for ice prevention and de-icing of vehicle, aircraft and other equipment by spraying.	Y	Y
	2.3 List of applicable Use Descriptors			
	LCS	C – Consumer use	Y	Y
	SU	SU0 – Other	Y	Y
PC	PC4 – Anti-freeze and de-icing products	Y	Y	
3. Operational conditions	3.1 Conditions of use			
	Location of use	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:	Although household hazardous waste (HHW) represents a small portion of the total domestic waste produced by consumers, it needs to be separated from normal trash and amassed for special handling. Many regional municipalities have established voluntary procedures for the identification, collection, and disposal of HHW in a safe and efficient manner. Once amassed, the HHW can be transported to collection sites where it is reused, recycled, or incinerated. The handling and disposal of hazardous waste needs to conform with established practices and local/regional regulations in order to minimize environmental release and the potential for ecological harm.	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 ECom catalogue when available. When no phrase is available yet in the catalogue the proposed phrase can be reported here.

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		Inglezakis, V.J., Moustakas, K. (2015). Household hazardous waste management: A review. Journal of Environmental Management 150, 310-321. doi: 10.1016/j.jenvman.2014.11.021.		
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.	Y	Y
	Reference for RMM Efficiency (air):	BCERF, 1999. Safe Use and Storage of Hazardous Household Products. Cornell University, Program on Breast Cancer and Environmental Risk Factors. Ithaca, NY. https://extensionhealthyhomes.org/Documents/fs22_safeUse.pdf .	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 air are minimized when the product is used in accordance with the manufacturers' instructions and established practices.	Y	Y
	Reference for RMM Efficiency (soil):	BCERF, 1999. Safe Use and Storage of Hazardous Household Products. Cornell University, Program on Breast Cancer and Environmental Risk Factors. Ithaca, NY. https://extensionhealthyhomes.org/Documents/fs22_safeUse.pdf .	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) (NB the value of 0.2% in the original factsheet includes the recommended adjustment factor of 4. This factor should not be used to arrive at a regional fraction and has been dropped. The proper use of the adjustment factor is noted in the background document.)	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			

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	sub-SPERC identifier:	ESVOC 8.14b.v2	Y	N
	ERC	ERC 8d		
	sub-SPERC applicability:	None	Y	N
5.3.1 Release Factor – air				
	Numeric value / percent of input amount (Air)	95%	Y	Y
	Justification of RFs (Air):	The value was assigned using a mass balance approach that takes advantage of the sector knowledge and professional judgement of individuals within the expert group responsible for creating this SpERC factsheet. The determination employs an informed decision-making process that assumed complete release of the chemical substances to the environment. Partitioning of the release to air, water, and soil takes into consideration the default release factors associated with ERC 8d. The assigned release factors were 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-Environmental-Release-Classes.pdf .	Y	N
5.3.2 Release Factor – water				
	Numeric value / percent of input amount (Water):	1%	Y	Y
	Justification of RFs (Water):	The value was assigned using a mass balance approach that takes advantage of the sector knowledge and professional judgement of individuals within the expert group responsible for creating this SpERC factsheet. The determination employs an informed decision-making process that assumed complete release of the chemical substances to the environment. Partitioning of the release to air, water, and soil takes into consideration the default release factors associated with ERC 8d. The assigned release factors were 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-Environmental-Release-Classes.pdf .	Y	N
5.3.3 Release Factor – soil				
	Numeric value / percent of input amount (Soil):	4%	Y	Y
	Justification of RFs (Soil):	The value was assigned using a mass balance approach that takes advantage of the sector knowledge and professional judgement of individuals within the expert group responsible for creating this SpERC factsheet. The determination employs an informed decision-making process that assumed complete release of the chemical substances to the environment. Partitioning of the release to air, water, and soil takes into consideration the default release factors associated with ERC 8d. The assigned release factors were reviewed and agreed upon by a broad	Y	N

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5.3.4 Release Factor – waste				
	Percent of input amount disposed as waste:	10%	Y	N
	Justification of RFs:	The waste generation factor was taken from a life cycle assessment of a commercial antifreeze solution suitable for use in automobiles (Hunt, 1996). The stated value represents the amount of ethylene glycol waste that is generated as a result of improper disposal of a 50% ethylene glycol solution. An uncertainty factor has not been applied to this value since a portion of the waste includes the improper release to surface water and soil. Hunt, R.G. et al. (1996). Life cycle assessment of ethylene glycol and propylene glycol antifreeze, International Congress & Exposition, SAE Technical Paper, Detroit, MI.	Y	N
References to SPERC Background Document				
	Reference to Background Document	ESIG/ESVOC (2019). SpERC Background Document (1 st draft). Specific Environmental Release Categories (SpERCs) for the consumer use of solvents and solvent-borne substances for agrochemical use, de-icing applications, and water treatment chemicals. European Solvents Industry Group. Brussels, Belgium.	Y	N