

FS Section	Content field
1. Title	1.1 Formulation of liquid Detergents/ Maintenance Products: Low Viscosity (large scale >10,000t product/a)
	1.2 AISE SPERC 2.1.g.v3
2. Scope	2.1 Substance/Product Domain
	Substance types / functions / properties included or excluded: solid and liquid substances used for the formulation of liquid detergents and maintenance products
	Additional specification of product types covered: Low viscosity products include the following: floor cleaner, all-purpose cleaner, bathroom cleaner, kitchen cleaner, window cleaner, liquid WC-rim. Typically, the viscosity of these products is not specified and not adjusted. The scope of this SPERC comprises products intended for consumer, professional and industrial applications.
	Inclusion of sub-SPERCs: n
	2.2 Process domain
	Description of activities/processes: Covers the whole process of formulating water-borne mixtures for liquid cleaning and maintenance products. This includes typical process steps, such as storing, mixing, packaging of substances (as part of mixtures) and associated laboratory activities. Routine equipment cleaning and maintenance is also included and leads to the highest contribution to environmental release.
	2.3 List of applicable Use Descriptors
	LCS: F
	SU: 0
	PC: 35
3. Operational conditions	3.1 Conditions of use
	Location of use: indoor
	Water contact during use: y
	Connected to a standard municipal biological STP: y
	Rigorously contained system with minimisation of release to the environment: n
	Further operational conditions impacting on releases to the environment. Losses in the process to waste can be the result of cleaning of mixing vessels, tubing, production/packaging lines. The formulation of water-borne liquid cleaning and maintenance products may involve the following:
	<ul style="list-style-type: none"> <li>Measures to achieve efficient raw material use <ul style="list-style-type: none"> <li>Reduced number of transfer and cleaning operations through e.g. dedicated storage tanks for raw materials and final products <i>and/or</i></li> <li>Recovery of materials through e.g. recycling residues of powder ingredients in cleaning steps at packaging or transfer lines into the process</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>Automation in raw materials handling (manual / automatic dosing): <ul style="list-style-type: none"> <li>Closed batch production process <i>and/or</i></li> <li>Semi-Closed transfer system <i>and/or</i></li> <li>Dedicated storage tanks for raw materials, premixes and final products <i>and/or</i></li> <li>Use of robotics technology</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>Equipment cleaning with minimized emissions to wastewater may include: <ul style="list-style-type: none"> <li>Manual removal of residual products adhering to equipment (e.g. by manual scrubbing, vacuum cleaning, etc.) <i>and/or</i></li> <li>use of two-liner systems (i.e. single use disposable reactor cover that is incinerated after use as solid waste)</li> <li>Use of adsorption pads to clean spills</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>Process with negligible volatilization</li> </ul>
	3.2 Waste Handling and Disposal
	What cannot be recycled into the process will become waste that needs to be disposed of. Liquid waste is typically directed to waste water, while solid waste can be treated as industrial waste and incinerated.
	Spill protection including waste reuse
4. Obligatory RMMs onsite	RMM limiting release to air: none
	RMM Efficiency (air): n/a
	Reference for RMM Efficiency (air): n/a

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	RMM limiting release to water: none
	RMM Efficiency (water): n/a
	Reference for RMM Efficiency (water): n/a
	RMM limiting release to soil: none
	RMM Efficiency (soil): n/a
	Reference for RMM Efficiency (soil): n/a
5. Exposure Assessment Input	5.1 Substance use rate
	Amount of substance use per day: The indicative substance use rate ( $M_{SPERC}$ ) for several ingredient types and guidance for refinement can be found in background documentation.
	Fraction of EU tonnage used in region: n/a
	Fraction of Regional tonnage used locally: n/a
	Justification / information source: cf. AISE Background document
	5.2 Days emitting
	Number of emission days per year: 300
	Justification / information source: cf. AISE Background document
	5.3 Release factors
	sub-SPERC identifier: n/a
	ERC: 2
	sub-SPERC applicability: N/a
	5.3.1 Release Factor – air
	Numeric value / percent of input amount (Air): 0%
	Justification of RFs (Air): cf. AISE Background document
	5.3.2 Release Factor – water
	Numeric value / percent of input amount (Water): 0.05%
	Justification of RFs (Water): cf. AISE Background document
	5.3.3 Release Factor – soil
	Numeric value / percent of input amount (Soil): 0%
	Justification of RFs (Soil): cf. AISE Background document
	5.3.4 Release Factor – waste
	Percent of input amount disposed as waste: 0-6%
	Justification of RFs: cf. AISE Background document
References to SPERC Background Document <sup>1</sup>	
	Ref. A.I.S.E., International Association for Soaps, Detergents and Maintenance Products. 2021. Specific Environmental Release Categories (SPERCs) for the formulation of household care and professional cleaning and hygiene products

<sup>1</sup> The objective of this factsheet is to summarize the SPERC key facts provided in the corresponding SPERC background documents. It gives an overview of the SPERC essentials for the chemical safety assessment. A SPERC background document is a reference document, which provides the description of the emission situation(s) for a use specified by an industrial sector, the justification and applicability domain of the environmental release factors, and the references/information sources/methods used in the derivation of the release factors.