

FS Section	Content field
1. Title	1.1 Formulation of granular Detergents/ Maintenance Products: Regular & Compact (medium scale 1,000 - 10,000 t product/a)
	1.2 AISE SPERC 2.1.b.v3
2. Scope	2.1 Substance/Product Domain
	<b>Substance types / functions / properties included or excluded:</b> solid and liquid substances used for the formulation of granular detergents and maintenance products
	<b>Additional specification of product types covered:</b> regular powders with apparent density below ca. 0.75kg/L. Compact powders may be extruded (e.g. pearls) or tableted (tabs) detergents reaching densities of ca. 1.4kg/l. The scope of this SPERC comprises products intended for consumer, professional and industrial applications.
	<b>Inclusion of sub-SPERCs:</b> n
	2.2 Process domain
	<b>Description of activities/processes:</b> Covers the whole process of formulation as it occurs in the manufacturing of granular cleaning and maintenance products. This includes typical process steps, such as storing, mixing, packaging of substances (as part of mixtures) and associated laboratory activities. Granular detergents are obtained by drying liquid slurries. Tablets are made by compressing powder material
	2.3 List of applicable Use Descriptors
	LCS: F
	SU: 0
	PC: 35
3. Operational conditions	3.1 Conditions of use
	<b>Location of use:</b> indoor
	<b>Water contact during use:</b> y
	<b>Connected to a standard municipal biological STP:</b> y
	<b>Rigorously contained system with minimisation of release to the environment:</b> n
	<b>Further operational conditions impacting on releases to the environment.</b> Losses in the process to waste can be the result of cleaning of mixing vessels, tubing, production/ packaging lines. The formulation of regular and compact granular detergent products may involve the following:
	<ul style="list-style-type: none"> <li>• <b>Measures to achieve efficient raw material use</b> <ul style="list-style-type: none"> <li>- Reduced number of transfer and cleaning operations through e.g. manufacturing of different products from one premix (masterbatch), to which certain ingredients are added to yield the final products <i>and/or</i></li> <li>- Dedicated storage tanks for raw materials, premixes and final products <i>and/or</i></li> <li>- Residues of granular detergents recovered in cleaning steps at packaging or transfer lines are recycled into the slurries</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Automation in raw materials handling (manual / automatic dosing):</b> <ul style="list-style-type: none"> <li>- Closed automated process for the transport and handling of raw materials <i>and/or</i></li> <li>- Closed transfer system <i>and/or</i></li> <li>- Centralized process control <i>and/or</i></li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Equipment cleaning with minimized emissions to wastewater may include:</b> <ul style="list-style-type: none"> <li>- Dry cleaning of equipment, use of Central or Peripheral Vacuum Cleaning <i>and/or</i></li> <li>- Cleaning involving so-called pigs in sub-processes involving liquid slurries <i>and/or</i></li> <li>- re-use of process grey water for cleaning</li> </ul> </li> </ul>
	3.2 Waste Handling and Disposal
	<b>Waste Handling and Disposal:</b>
	<ul style="list-style-type: none"> <li>- Residues which cannot be recycled are disposed of as chemical waste</li> </ul>
	<ul style="list-style-type: none"> <li>- Spill protection including waste reuse</li> </ul>
4. Obligatory RMMs onsite	RMM limiting release to air: none
	RMM Efficiency (air): n/a
	Reference for RMM Efficiency (air): n/a
	RMM limiting release to water: none

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	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 <sub>SPERC</sub> ) 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): 0.1 %
	Justification of RFs (Air): cf. AISE Background document
	5.3.2 Release Factor – water
	Numeric value / percent of input amount (Water): 0.1%
	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.