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| **1. Title** | 1.1 Formulation of Solvent-borne and Solvent-less Adhesives / Sealants and Construction Chemical Products – volatile Substances (large scale, > 1,500 t/a of products)  
1.2 FEICA / EFCC SPERC 2.1b.v3 |
| **2. Scope** | 2.1 Substance/Product Domain  
Substance types / functions / properties included or excluded: Includes volatile substances which evaporate to a significant extent upon curing of the adhesives. Volatiles are defined by a boiling point threshold of <250°C.  
Additional specification of product types covered: none  
Inclusion of sub-SPERCs: n  
2.2 Process domain  
Description of activities/processes: storing, mixing, packaging, filling of substances (as part of preparations) and equipment cleaning, maintenance and associated laboratory activities  
2.3 List of applicable Use Descriptors  
LCS: F  
SU: 0  
PC: 1, 9a, 9b |
| **3. Operational conditions** | 3.1 Conditions of use  
Location of use: indoor  
Water contact during use: n  
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:  
• Automation in raw materials handling (manual / automatic dosing): High degree of automation in adhesive / sealant formulation  
• Measures to achieve efficient raw material use (e.g. water re-use, recovery of substances from waste etc.): The manufacture of adhesive chemicals is a multi-stage batch process. The process is arranged to maximise the efficiency of use of input raw materials, through the highest conversion into formulated products.  
• Conditions preventing emissions to air: use of closed or covered manufacturing equipment to minimise evaporative losses of VOCs. Use of general and manufacturing plant extraction to maintain emissions of airborne VOCs below the levels permitted by 1999/13/EG.  
• Conditions preventing emissions to water: batch process, no onsite RMM considered as there is no contact/release to water  
3.2 Waste Handling and Disposal  
• Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.  
• Vapor recovery (adsorption) or other technique for reducing volatiles emissions (incineration, thermal oxidation) |
| **4. Obligatory RMMs onsite** | RMM limiting release to air: Waste gas treatment, adsorption, incineration, etc.  
RMM Efficiency (air): 80%  
Reference for RMM Efficiency (air): FEICA / EFCC (2017). Specific Environmental Release Categories (SPERCs) for the formulation of adhesives and sealants and construction chemical products  
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 worst case substance use rate (MSPERC) 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: FEICA / EFCC (2017). Specific Environmental Release Categories (SPERCs) for the formulation of adhesives and sealants and construction chemical products |
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| 5.2 Days emitting | Number of emission days per year: 300  
Justification / information source: FEICA / EFCC (2017). Specific Environmental Release Categories (SPERCs) for the formulation of adhesives and sealants and construction chemical products |
| 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): 0.36%  
| | 5.3.2 Release Factor – water  
Numeric value / percent of input amount (Water): 0%  
| | 5.3.3 Release Factor – soil  
Numeric value / percent of input amount (Soil): 0%  
| | 5.3.4 Release Factor – waste  
Percent of input amount disposed as waste: 0.2 -3%  