

Section	Content		
<b>SPERC Title</b>	Formulation of Construction Chemicals		
<b>SPERC code</b>			
	EFCC SPERC2.1a.v1 - Volatile substances (main component) for the Formulation of Construction Chemicals. EFCC SPERC 2.1b.v1 - Volatile substances (additives) for the Formulation of Construction Chemicals. EFCC SPERC 2.1c.v1 - Non-Volatile substances for the Formulation of Construction Chemicals.		
<b>Scope</b>			
	Covers the use of volatiles and non-volatiles in the formulation of construction chemicals  Substance Domain: EFCC SPERC 2.1a.v1; EFCC SPERC 2.1b.v1 EFCC SPERC 2.1c.v1 All substances which do not evaporate to a significant extent during formulation of the construction chemical		
<b>Related use descriptors</b>			
	Main User Group: SU 10		
	Sector of Use: SU 19		
	Environmental Release Class: ERC 2		
	Process Categories: PROC 2, PROC 3, PROC 4, , PROC 5, PROC 8a PROC 8b, PROC 9, PROC 14, PROC 15		
	Product categories: PC 1, PC 9a, PC 9b, PC10		
<b>Operational conditions</b>			
	EFCC 2.1a.v1	Negligible or very small air emissions as process operates in a contained system Negligible or very small wastewater emissions as process operates without water contact Process optimized for efficient use of raw materials	
	EFCC 2.1b.v1		
	EFCC 2.1c.v1		
	<b>Free text background</b>		
	Sector specific classification of formulation sites.		
<b>Obligatory onsite RMMs</b>			<b>RMM-Efficiency (RE<sub>SPERC</sub>)</b>
	<i>air</i>		
	EFCC 2.1a.v1 EFCC 2.1b.v1	No onsite RMM considered as there is a very small release to air	
	EFCC 2.1c.v1	Air emission controls are not applicable as there is no direct release to air.	
	<i>water</i>		
	EFCC 2.1a.v1 EFCC 2.1b.v1 EFCC 2.1c.v1	No onsite RMM considered as there is a very small release to waste water production during the processes	

Substance use rate	Phrase		Value		
	EFCC 2.1a.v1	The substance maximum use rate in a typical operation ( $M_{\text{SPERC}}$ in kg/d)	20000		
	EFCC 2.1b.v1		5000		
	EFCC 2.1c.v1		75000		
	<b>Justification</b>				
Typical maximum site tonnage, based on sector knowledge					
Days emitting	Phrase		Value		
	EFCC 2.1a.v1	Emission days (day/year)	220		
	EFCC 2.1b.v1		220		
	EFCC 2.1c.v1		220		
Release factors	Values (per pathway)				
		To air	To water	To soil	To waste
	EFCC 2.1a.v1	0.01	0.005	0	0
	EFCC 2.1b.v1	0.01	0.005	0	0
	EFCC 2.1c.v1	0	0.005	0	0
<b>Justification</b>					
OECD Emission Scenario Document, Series No. 22 Coating Industry (Paints, Lacquers and Varnishes), July 2009. Regarding environmental emissions, the formulation of adhesives and sealants is very similar to that of formulation of paints, lacquers and varnishes. For that reason, release fractions defined in the OECD Emission Scenario Document have been adopted for the SPERC Factsheet for the formulation of adhesives and sealants.					
Optional risk management measures	Type of RMM			Efficiency	
	<i>air</i>				
	EFCC 2.1a.v1	Air emission are not applicable as there is very small or no direct release to air			-
	EFCC 2.1b.v1				-
	EFCC 2.1c.v1				-
	<i>water</i>				
	EFCC 2.1a.v1	No wastewater treatment required.			N/A
	EFCC 2.1b.v1				N/A
	EFCC 2.1c.v1				N/A
	Narrative description	Formulation of construction chemicals			
	<ul style="list-style-type: none"> <li>The manufacture of construction 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. Process losses are reduced to the absolute minimum, through use of general and manufacturing plant extraction to maintain workplace concentrations of airborne VOCs and particulates below respective OELs; and through use of closed or covered manufacturing equipment to minimise evaporative losses of VOCs. The composition of products and the overall process are such that there are no discharges of raw materials</li> </ul>				

	<p>or products to waste-water or to soil from the manufacturing plant.</p> <ul style="list-style-type: none"><li>○ Unambiguous description of conditions regarding waste management and wastewater discharges (e.g. if there are no restrictions in scope, statement that any type of waste disposal is covered).</li></ul>
<b>Scaling</b>	
	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**EFCC SPERC2.1a.v1 - Volatile substances (main component) for the Formulation of Construction Chemicals**

Determinant Label	Quali-/ Quantitative	Value	Description of Value	Standard Phrase	Efficiency -if applicable
Type of Process	Qual	Solvent based process		Solvent based process	
Indoor/outdoor use	Qual	Indoor Use		Indoor	
Equipment cleaning	Qual	Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.		Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.	
Process efficiency	Qual	Process optimized for efficient use of raw materials.	<p>Typical measures may include e.g.</p> <ul style="list-style-type: none"> <li>- Closed batch systems and / or</li> <li>- Semi-closed transfer system and/or</li> <li>- Batch production of final product</li> </ul> <p>Reduced number of transfer and cleaning operations through e.g.</p> <ul style="list-style-type: none"> <li>- Dedicated storage tanks for raw materials, premixes and final products</li> </ul>	Process optimized for efficient use of raw materials.	
General good practice	Qual	Trained staff, spill protection including waste reuse		Trained staff, spill protection including waste reuse	

**EFCC SPERC 2.1b.v1 - Volatile substances (additives) for the Formulation of Construction Chemicals**

Determinant Label	Quali-/Quantitative	Value	Description of Value	Standard Phrase	Efficiency -if applicable
Type of Process	Qual	Solvent based process		Solvent based process	
Indoor/outdoor use	Qual	Indoor Use		Indoor	
Equipment cleaning	Qual	Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.		Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.	
Process efficiency	Qual	Process optimized for efficient use of raw materials.	<p>Typical measures may include e.g.</p> <ul style="list-style-type: none"> <li>- Closed batch systems and / or</li> <li>- Semi-closed transfer system and/or</li> <li>- Batch production of final product</li> </ul> <p>Reduced number of transfer and cleaning operations through e.g.</p> <ul style="list-style-type: none"> <li>- Dedicated storage tanks for raw materials, premixes and final products</li> </ul>	Process optimized for efficient use of raw materials.	
General good practice	Qual	Trained staff, spill protection including waste reuse		Trained staff, spill protection including waste reuse	

**EFCC SPERC 2.1c.v1 - Non-Volatile substances for the Formulation of Construction Chemicals**

<b>Determinant Label</b>	<b>Quali-/Quantitative</b>	<b>Value</b>	<b>Description of Value</b>	<b>Standard Phrase</b>	<b>Efficiency -if applicable</b>
Type of Process	Qual	Solvent based process		Solvent based process	
Indoor/outdoor use	Qual	Indoor Use		Indoor	
Equipment cleaning	Qual	Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.		Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.	
Process efficiency	Qual	Process optimized for efficient use of raw materials.	<p>Typical measures may include e.g.</p> <ul style="list-style-type: none"> <li>- Closed batch systems and / or</li> <li>- Semi-closed transfer system and/or</li> <li>- Batch production of final product</li> </ul> <p>Reduced number of transfer and cleaning operations through e.g.</p> <ul style="list-style-type: none"> <li>- Dedicated storage tanks for raw materials, premixes and final products</li> </ul>	Process optimized for efficient use of raw materials.	
General good practice	Qual	Trained staff, spill protection including waste reuse		Trained staff, spill protection including waste reuse	