

Section	Content		
SPERC Title	Industrial Use of Volatile and Non-Volatile Substances in Construction Chemicals		
SPERC code			
	EFCC SPERC 4.1a.v1 : Industrial use of volatile substances (main components) in Construction Chemicals EFCC SPERC 4.1b.v1 Industrial use of volatile substances (additives) in Construction Chemicals EFCC SPERC 5.1a.v1 Industrial use of non-volatile substances in Construction Chemicals		
Scope			
	Covers the application of construction chemicals for a wide range of purposes by industrial uses. Covers different construction chemicals application techniques for indoor use. Substance Domain: EFCC SPERC 4.1a.v1; EFCC SPERC 4.1b.v1 Solvents and volatiles which quantitatively evaporate upon curing of the construction chemical. EFCC SPERC 5.1a.v1 All substances which do not evaporate to a significant extent upon curing of the construction chemical		
Related use descriptors			
	Main User Group: SU 3		
	Sector of Use: SU 19		
	Environmental Release Class: ERC 4, ERC 5		
	Process Categories: PROC 7, PROC8b, PROC 10, PROC 13, PROC 14		
	Product categories: PC0, PC 1, PC 9a, PC 9b		
Operational conditions	Operational conditions – Phrases		
	EFCC 4.1a.v1	Indoor use, product applied to a substrate to form a solid matrix, negligible wastewater emissions as process operates without water contact	
	EFCC 4.1b.v1	Indoor use, product applied to a substrate to form a solid matrix, negligible wastewater emissions as process operates without water contact	
	EFCC 5.1a.v1	Indoor use, negligible wastewater emissions as process operates without water contact	
	Operational conditions - Free text background		
	EFCC 4.1a.v1 EFCC 4.1b.v1	Upon curing, substances evaporate to the ambient air.	
	EFCC 5.1a.v1	Upon curing, substances are included into matrix without intended release to the environment.	
Obligatory onsite RMMs	RMM - Phrase		RMM-Efficiency (RE_{SPERC})
	<i>air</i>		
	EFCC 4.1a.v1	No onsite RMM considered	0
	EFCC 4.1b.v1		0
	EFCC 5.1a.v1	No onsite RMM considered as there is a very small release to air	0
	<i>water</i>		

	EFCC 4.1a.v1	No onsite RMM considered as there is no waste water production during the processes	0		
	EFCC 4.1b.v1		0		
	EFCC 5.1a.v1		0		
Substance use rate	Phrase		Value		
	EFCC4.1a.v1	The substance maximum use rate in a typical operation (M_{SPERC} in kg/d)	2000		
	EFCC 4.1b.v1		500		
	EFCC 5.1a.v1		7500		
	Justification				
	Typical maximum site tonnage, based on sector knowledge				
Days emitting	Phrase		Value		
	EFCC 4.1a.v1	Emission days (days/year) [FD4]	220		
	EFCC 4.1b.v1		220		
	EFCC 5.1a.v1		220		
Release factors	Values (per pathway)				
		To air	To water	To soil	To waste
	EFCC 4.1a.v1	0.985	0	0	0
	EFCC 4.1b.v1	0.985	0	0	0
	EFCC 5.1a.v1	0.017	0	0	0
	Justification				
	OECD Emission Scenario Document, Series No. 22 Coating Industry (Paints, Lacquers and Varnishes), July 2009. Regarding environmental emissions, the industrial use of construction chemicals is very similar to related industrial uses 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 4.1a.v1	Treat air emission to provide a typical removal efficiency of (%)	80		
	EFCC 4.1b.v1		80		
	EFCC 5.1a.v1	Air emission are not applicable as there is a very small release to air	N/A		
	<i>water</i>				
	EFCC 4.1a.v1	Wastewater emission controls are not applicable as there is no direct release to wastewater	N/A		
	EFCC 4.1b.v1		N/A		
	EFCC 5.1a.v1		N/A		
Narrative description	Industrial applications of construction chemicals				
	A relatively small part of the total quantity of construction chemicals has an industrial use during the production of prefabs.				
	The industrial application can be distinguished as follows: <ul style="list-style-type: none"> • Production of preparation or articles by tableting, compression, extrusion, pelettisation (for substances which are bound into matrix, e.g. binding 				

	agents or for processing aids, e.g. solvents) <ul style="list-style-type: none">• Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities• Roller application or brushing• Spraying (in industrial settings and applications)• Dipping and pouring of articles
Scaling	
	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.

Appendix - Determinant Lists

EFCC SPERC 4.1a.v1 Industrial use of volatile substances (main components) in 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	
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.	
Indoor/outdoor use	Qual	Covers Indoor and Outdoor Use		Covers Indoor and Outdoor Use	
General good practice	Qual	Trained staff, spill protection including waste reuse		Trained staff, spill protection including waste reuse	
Process efficiency	Qual	Process with efficient use of raw materials.	Typically implemented measures for reducing emissions to waste water may include: - Closed batch systems	Process with efficient use of raw materials.	

EFCC SPERC 4.1b.v1 Industrial use of volatile substances (additives) in 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	
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.	
Indoor/outdoor use	Qual	Covers Indoor and Outdoor Use		Covers Indoor and Outdoor Use	
General good practice	Qual	Trained staff, spill protection including waste reuse		Trained staff, spill protection including waste reuse	
Process efficiency	Qual	Process with efficient use of raw materials.	Typically implemented measures for reducing emissions to waste water may include: - Closed batch systems	Process with efficient use of raw materials.	

EFCC SPERC 5.1a.v1 Industrial use of non-volatile substances in 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	
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.	
Indoor/outdoor use	Qual	Covers Indoor and Outdoor Use		Covers Indoor and Outdoor Use	
General good practice	Qual	Trained staff, spill protection including waste reuse		Trained staff, spill protection including waste reuse	
Process efficiency	Qual	Process with efficient use of raw materials.	Typically implemented measures for reducing emissions to waste water may include: - Closed batch systems	Process with efficient use of raw materials.	