

## Identified Industrial Generic Exposure Scenarios (GESs) of Phenol

GES No.	Subsector	Main SU	Description	PROC	ERC	Phenol
EC No.						203-632-7
CAS No.						108-95-2
1	Manufacture, Processing and Distribution of substances and mixtures	All Industrial Uses (SU3)	Manufacture, Processing (see examples below1), Formulation and Distribution of the substance or mixtures. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15	ERC1, ERC2, ERC4, ERC6a  ERCs are to be checked with the ECT tool	x
2	Use in laboratories	All Industrial Uses (SU3)	Use of the substance within laboratory settings, including material transfers and equipment cleaning	PROC10, PROC15	ERC4  ERCs are to be checked with the ECT tool	x
3	Uses in Coatings	All Industrial Uses (SU3)	Covers the use in coatings (paints, inks, adhesives, and production of textiles, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.	PROC5, PROC8a, PROC10, PROC13	ERC4  ERCs are to be checked with the ECT tool	x + PROC1, PROC2, PROC3, PROC4, PROC7, PROC8b, PROC9, PROC15 + ERC3 ERC5
4	Use as binders and release agents	All Industrial Uses (SU3)	Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mould forming and casting, and handling of waste.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13	ERC5  ERCs are to be checked with the ECT tool	x + PROC14 ERC3
5	Rubber production and processing	All Industrial Uses (SU3)	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14	ERC6d  ERCs are to be checked with the ECT tool	x

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EC No.						203-632-7
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6	Polymer manufacturing	All Industrial Uses (SU3)	Manufacturing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15	ERC6d ERCs are to be checked with the ECT tool	x
7	Polymer processing	All Industrial Uses (SU3)	Processing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15	ERC6d ERCs are to be checked with the ECT tool	x
8	Phenolic Resin processing (DU uses of Phenolic Resins)	All Industrial Uses (SU3)	Processing resins including material transfers, moulding and forming activities, material re-works and associated maintenance. Identified DU uses eg: Foundry, Hot Tops and refractory, Electrical laminates, Felt bonding, Friction, Mineral wool, Wood products, Impregnated paper, abrasives, Foam.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15	ERC2, ERC4, ERC6b, ERC6c, ERC6d ERCs are to be checked with the ECT tool	x

<sup>1</sup> Examples for processing: use as intermediate,  
use as monomer etc.  
use as solvent,  
use for the manufacturing of resins

<sup>2</sup> Polymer Examples: FRP, UV, VE

Please note also: PC's and AC's are only for consumer.  
For checking ERC's please use the respective environmental calculation tool (ECT) ECT Acetone or ECT Phenol or ECT Cumene or ECT AMS or ECT ACP

Identified Industrial PROCs

PROC No.	Phenol
EC No.	203-632-7
CAS No.	108-95-2
PROC1	x
PROC2	x
PROC3	x
PROC4	x
PROC5	x
PROC6	x
PROC7	x
PROC8a	x
PROC8b	x
PROC9	x
PROC10 (2 uses)	x
PROC13	x
PROC14	x
PROC15	x
<b>Sum</b>	<b>14</b>

## Worksheet 2. Worker Chemical Safety Assessment Template: Tables 1 and 2 - Worker Chemical Safety Assessment (CSA)

Substance specific information		Reference Values		
Substance	Phenol	DNEL worker - inhalation (long term)	2	ppm
CASnr	108-95-2	DNEL worker - inhalation (short term)	4	ppm
Substance volatility:	0.2 hPA	DNEL worker - dermal (long term)	1	mg/kg/day
TRA volatility range	low			
physical property	liquid			
<b>Section 1</b>		<b>Exposure Scenario Title</b>		
<b>Exposure Scenario</b>		<b>Main sector of Use: SU3 = All Industrial Uses</b>		
Processes, tasks, activities covered	All Industrial Processes relevant for Phenol and Phenol containing products.			
Life Cycle Stage / Sector of Use	SU3 = All Industrial Uses			
Applicable Use Descriptors (PROC or PC)	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15			
Applicable Use Descriptors (ERC or SpERC)	ERCs and local conditions are to be checked with the Excel tool ECT Phenol			
<b>Default Operational Conditions</b>				
<b>Product characteristics</b>				
Acute Hazard	R34 - corrosive - moderate hazard: C >= 3 % R36/38 - irritant: 1 % <= C < 3 %			
<b>General measures</b>	<p style="color: red; margin: 0;"><b>Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance.</b></p> <p style="color: red; margin: 0;"><b>Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions [G25].</b></p>			
concentration of substance in product	Covers percentage substance in the product between 3 and 100 % (unless stated differently) [G13a].			
physical form of product	Liquid, vapour pressure < 0.5 kPa [OC3].; Liquid, vapour pressure 0.5 - 10 kPa [OC4].			
frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]			
other Operational Conditions of use	Assumes a good basic standard of occupational hygiene is implemented [G1]. ;			

<b>Section 2</b>	<b>Operational conditions and risk management measures</b>
<b>Section 2.1</b>	<b>Control of environmental exposure</b>
Product characteristics	<a href="#">substance is a unique structure, phenol, aromatic alcohol, biodegradable</a>
Amounts used	<a href="#">Annual site tonnage (tonnes/year): please use the Excel-Tool 'ECT Phenol' to calculate your maximum tonnage/year</a>
Frequency and duration of use	<a href="#">Emission Days (days/year): 360d/y</a>
Other Operational Conditions of use affecting environmental exposure	<a href="#">Indoor/Outdoor use</a>
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	<a href="#">Common practices vary across sites thus conservative process release estimates used. Typical technical measures are closed systems or scrubbers or charcoal adsorbers. Typical onsite offgas treatment technology provides removal efficiency of 90 %</a>
Organisation measures to prevent/limit release from site	<a href="#">Common practices vary across sites thus conservative process release estimates used. Please use the Excel-Tool 'ECT Phenol' to check your local conditions.</a>
Conditions and measures related to municipal sewage treatment plant	<a href="#">Please use the Excel-Tool 'ECT Phenol' to check your local conditions.</a>
Conditions and measures related to external treatment of waste for disposal	<a href="#">External treatment and disposal of waste should comply with applicable regulations</a>
Conditions and measures related to external recovery of waste	<a href="#">External treatment and disposal of waste should comply with applicable regulations</a>
Other environmental control measures additional to above	
<b>Section 2.2</b>	<b>Control of worker exposure</b>
	<a href="#">see chapter RMMs</a>
<b>Section 3</b>	<b>Exposure Estimation</b>
<b>3.1. Health</b>	<a href="#">GES Worker Chemical Safety Assessment (CSA) Template</a>
	<a href="http://cefic.org/templates/shwPublications.asp?HID=750">http://cefic.org/templates/shwPublications.asp?HID=750</a>
<b>3.2. Environment</b>	<a href="#">ECT Phenol</a>
	<a href="http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx">http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx</a>
<b>Section 4</b>	<b>Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>	<a href="#">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.</a>

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Management Measures (RMMs)
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	advised under REACH
1	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].
2	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	Sample via a closed loop or other system to avoid exposure [E8].; Limit the substance content in the product to 3% [OC17a].; Handle substance within a closed system [E47].
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility Sample via a closed loop or other system to avoid exposure [E8].; Limit the substance content in the product to 3% [OC17a].; Handle substance within a closed system [E47].Wear suitable gloves tested to EN374 [PPE15].
5	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].Ensure material transfers are under containment or extract ventilation [E66].
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].Avoid carrying out activities involving exposure for more than 4 hours [28].
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility Sample via a closed loop or other system to avoid exposure [E8].; Limit the substance content in the product to 25% [OC18].; Handle substance within a closed system [E47].
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility Sample via a closed loop or other system to avoid exposure [E8].; Limit the substance content in the product to 3% [OC17a].; Handle substance within a closed system [E47].
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility Ensure material transfers are under containment or extract ventilation [E66].
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility Avoid carrying out activities involving exposure for more than 1 hour [27].
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility Avoid carrying out activities involving exposure for more than 1 hour [27].

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Management Measures (RMMs)	
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	advised under REACh	
12	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	-Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
13	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	-Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Avoid carrying out activities involving exposure for more than 1 hour [27].
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	-Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a].Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls [PPE18].
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	-Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 114.5 °C = medium volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 1 hour [27].
16	PROC 6 -Calendering operations	Industrial SU3	-Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
17	PROC 6 -Calendering operations	Industrial SU3	-Calendering (including Banburys) [CS64]		occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a].Ensure material transfers are under containment or extract ventilation [E66]. Wear suitable gloves tested to EN374 [PPE15].
18	PROC 6 -Calendering operations	Industrial SU3	-Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 1 hour [27].
19	PROC 7 -Industrial spraying	Industrial SU3	-Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 1 hour [27].
20	PROC 7 -Industrial spraying	Industrial SU3	-Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		Ensure material transfers are under containment or extract ventilation [E66]. Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
21	PROC 7 -Industrial spraying	Industrial SU3	-Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		Limit the substance content in the product to 3% [OC17a].Ensure material transfers are under containment or extract ventilation [E66].
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	-Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Management Measures (RMMs)	
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs		advised under REACH
23	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 25% [OC18].Avoid carrying out activities involving exposure for more than 1 hour [27].
24	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
25	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a].Avoid carrying out activities involving exposure for more than 1 hour [27].Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
26	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 1 hour [27].
27	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
28	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Avoid carrying out activities involving exposure for more than 1 hour [27].
29	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 25% [OC18].Avoid carrying out activities involving exposure for more than 4 hours [28].
30	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a].Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
31	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	Limit the substance content in the product to 25% [OC18].Ensure material transfers are under containment or extract ventilation [E66].
32	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial - SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
33	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial - SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 25% [OC18].Avoid carrying out activities involving exposure for more than 4 hours [28].



Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Management Measures (RMMs)	
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	advised under REACH	
34	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	-Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a].Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
35	PROC 10 - Roller application or brushing	Industrial SU3	-Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]; elevated temperature [CS111]		Ensure material transfers are under containment or extract ventilation [E66].
36	PROC 10 - Roller application or brushing	Industrial SU3	-Rolling, Brushing [CS51].	elevated temperature [CS111]		Avoid carrying out activities involving exposure for more than 1 hour [27].
37	PROC 10 - Roller application or brushing	Industrial SU3	-Equipment cleaning and maintenance [CS39].	elevated temperature [CS111]	equipment prewashed/ rinsed automatically	Limit the substance content in the product to 5% [OC17].Drain or remove substance from equipment prior to break-in or maintenance [E81].Avoid carrying out operation for more than 4 hours [OC12]Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision
38	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	-Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
39	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	-Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 25% [OC18].Avoid carrying out activities involving exposure for more than 1 hour [27].
40	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	-Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a].Avoid carrying out activities involving exposure for more than 4 hours [28].
41	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	-Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
42	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	-Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 25% [OC18].Avoid carrying out activities involving exposure for more than 4 hours [28].
43	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	-Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a].Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].
44	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	-Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	Limit the substance content in the product to 25% [OC18].Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28].

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Management Measures (RMMs)
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	advised under REACh
45	PROC 15 - Use of laboratory reagents in small scale laboratories	Industrial SU3	Laboratory activities [CS36].	with local exhaust ventilation [CS109] occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Inhalation Exposure								
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
1	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	0.01							occasional exposure @ temp < 58 °C = low volatility	0.01
2	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	0.01			<3%				occasional exposure @ temp < 58 °C = low volatility	0.002
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	1						occasional exposure @ temp < 58 °C = low volatility	1
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	1		<3%				occasional exposure @ temp < 58 °C = low volatility	0.2
5	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	3	90					occasional exposure @ temp < 58 °C = low volatility	0.3
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3			1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.8
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3		5-25%				occasional exposure @ temp < 58 °C = low volatility	1.8
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3		<3%				occasional exposure @ temp < 58 °C = low volatility	0.6
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5	90					occasional exposure @ temp < 58 °C = low volatility	0.5
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5			15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	20	90					occasional exposure @ temp < 114.5 °C = medium volatility	2
12	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	5	90					occasional exposure @ temp < 58 °C = low volatility	0.5
13	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5			15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Inhalation Exposure								
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5		<3%				occasional exposure @ temp < 58 °C = low volatility	1
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 114.5 °C = medium volatility	50	90		15 min-1 hour			occasional exposure @ temp < 114.5 °C = medium volatility	1
16	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	5	90					occasional exposure @ temp < 58 °C = low volatility	0.5
17	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]		occasional exposure @ temp < 58 °C = low volatility	5		<3%				occasional exposure @ temp < 58 °C = low volatility	1
18	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	50	90		15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1
19	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		100	95		15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1
20	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		100	95			half mask		occasional exposure @ temp < 58 °C = low volatility	0.5
21	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		100	95	<3%				occasional exposure @ temp < 58 °C = low volatility	1
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	10	90					occasional exposure @ temp < 58 °C = low volatility	1
23	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10		5-25%	15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1.2
24	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10				half mask		occasional exposure @ temp < 58 °C = low volatility	1
25	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10		<3%	15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	0.4
26	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	50	90		15 min-1 hour			occasional exposure @ temp < 114.5 °C = medium volatility	1

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Inhalation Exposure								
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
27	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	5	97					occasional exposure @ temp < 58 °C = low volatility	0.15
28	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5			15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1
29	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5		5-25%	1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.8
30	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5		<3%				occasional exposure @ temp < 58 °C = low volatility	1
31	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	50	97	5-25%				occasional exposure @ temp < 114.5 °C = medium volatility	0.9
32	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	5	90					occasional exposure @ temp < 58 °C = low volatility	0.5
33	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5		5-25%	1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.8
34	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5		<3%				occasional exposure @ temp < 58 °C = low volatility	1
35	PROC 10 - Roller application or brushing	Industrial SU3	Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]; elevated temperature [CS111]		10	90					occasional exposure @ temp < 58 °C = low volatility	1
36	PROC 10 - Roller application or brushing	Industrial SU3	Rolling, Brushing [CS51].	elevated temperature [CS111]		10			15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	2
37	PROC 10 - Roller application or brushing	Industrial SU3	Equipment cleaning and maintenance [CS39].	elevated temperature [CS111]	equipment prewashed/ rinsed automatically	10		<3%	1-4 hours			equipment prewashed/ rinsed automatically	1.2
38	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10	90					occasional exposure @ temp < 58 °C = low volatility	1
39	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10		5-25%	15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1.2

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Inhalation Exposure								
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
40	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10			<3%	1-4 hours		occasional exposure @ temp < 58 °C = low volatility	1.2
41	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5	90					occasional exposure @ temp < 58 °C = low volatility	0.5
42	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5			5-25%	1-4 hours		occasional exposure @ temp < 58 °C = low volatility	1.8
43	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	5			<3%			occasional exposure @ temp < 58 °C = low volatility	1
44	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	50	90		5-25%	1-4 hours		occasional exposure @ temp < 114.5 °C = medium volatility	1.8
45	PROC 15 - Use of laboratory reagents in small scale laboratories	Industrial SU3	Laboratory activities [CS36].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	5	90					occasional exposure @ temp < 58 °C = low volatility	0.5

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
1	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	0.34					n.a. for corrosive mixtures, phenol resistant PPE is worn	
2	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	0.34		<3%				0.34
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	1.37					n.a. for corrosive mixtures, phenol resistant PPE is worn	
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	1.37		<3%	gloves			0.27
5	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	0.34	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	0.34					n.a. for corrosive mixtures, phenol resistant PPE is worn	
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	0.34		5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	0.34		<3%				0.34
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	6.86	0.1	>25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	6.86		5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	6.86		5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
12	PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	13.71	0.005	>25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
13	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71				n.a. for corrosive mixtures, phenol resistant PPE is worn	
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71		<3%	gloves-intensive controls		0.27
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 114.5 °C = medium volatility	13.71	0.005			n.a. for corrosive mixtures, phenol resistant PPE is worn	
16	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	27.43	0.05			n.a. for corrosive mixtures, phenol resistant PPE is worn	
17	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]		occasional exposure @ temp < 58 °C = low volatility	27.43	0.05	<3%	gloves		0.27
18	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	27.43	0.05			n.a. for corrosive mixtures, phenol resistant PPE is worn	
19	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		13.71	0.01			n.a. for corrosive mixtures, phenol resistant PPE is worn	
20	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		13.71	0.01			n.a. for corrosive mixtures, phenol resistant PPE is worn	
21	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		13.71	0.01	<3%			0.14
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	13.71	0.01			n.a. for corrosive mixtures, phenol resistant PPE is worn	
23	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71		5-25%		n.a. for corrosive mixtures, phenol resistant PPE is worn	
24	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71				n.a. for corrosive mixtures, phenol resistant PPE is worn	



Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
25	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71		<3%	gloves-specific training		0.69
26	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	13.71	0.01			n.a. for corrosive mixtures, phenol resistant PPE is worn	
27	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	6.86	0.1			n.a. for corrosive mixtures, phenol resistant PPE is worn	
28	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86				n.a. for corrosive mixtures, phenol resistant PPE is worn	
29	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86		5-25%		n.a. for corrosive mixtures, phenol resistant PPE is worn	
30	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86		<3%	gloves-specific training		0.34
31	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	6.86	0.1	5-25%		n.a. for corrosive mixtures, phenol resistant PPE is worn	
32	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	6.86	0.1				0.69
33	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86		5-25%		n.a. for corrosive mixtures, phenol resistant PPE is worn	
34	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86		<3%	gloves-specific training		0.34
35	PROC 10 - Roller application or brushing	Industrial SU3	Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]; elevated temperature [CS111]		27.43	0.05			n.a. for corrosive mixtures, phenol resistant PPE is worn	
36	PROC 10 - Roller application or brushing	Industrial SU3	Rolling, Brushing [CS51].	elevated temperature [CS111]		27.43				n.a. for corrosive mixtures, phenol resistant PPE is worn	

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>						Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs		TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
37	PROC 10 - Roller application or brushing	Industrial SU3	Equipment cleaning and maintenance [CS39].	elevated temperature [CS111]	equipment prewashed/ rinsed automatically	27.43		<3%	gloves-intensive controls			0.11
38	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
39	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71		5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
40	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71		<3%	gloves-intensive controls			0.27
41	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3.43	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
42	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3.43		5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
43	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3.43		<3%	gloves-basic traini			0.34
44	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	3.43	0.1	5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
45	PROC 15 - Use of laboratory reagents in small scale laboratories	Industrial SU3	Laboratory activities [CS36].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	0.34	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Characterization		
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)
1	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]			0.01
2	PROC 1 - Use in closed process, no likelihood of exposure	Industrial SU3	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]		0.28	0.28
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility		0.50
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Industrial SU3	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility		0.32
5	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility		0.15
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility		0.90
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility		0.90
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Industrial SU3	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.28	0.58
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility		0.25
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility		0.50
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Industrial SU3	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility		1.00

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Characterization			
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)	
12	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	0.25		0.25
13	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50	0.22	0.72
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Industrial SU3	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 114.5 °C = medium volatility	0.50		0.50
16	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	0.25		0.25
17	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]		occasional exposure @ temp < 58 °C = low volatility	0.50	0.22	0.72
18	PROC 6 -Calendering operations	Industrial SU3	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	0.50		0.50
19	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		0.50		0.50
20	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		0.25		0.25
21	PROC 7 -Industrial spraying	Industrial SU3	Spraying/fogging by machine application [CS25].	with local exhaust ventilation [CS109]		0.50	0.11	0.61
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>						Risk Characterization		
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)	
23	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.60		0.60
24	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
25	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.20	0.56	0.76
26	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	0.50		0.50
27	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	0.08		0.08
28	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
29	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.90		0.90
30	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50	0.28	0.78
31	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Industrial - SU3	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	0.45		0.45
32	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial - SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	0.25	0.56	0.81
33	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial - SU3	Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.90		0.90

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Characterization			
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)	
34	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Industrial SU3	- Small package filling [CS7].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50	0.28	0.78
35	PROC 10 - Roller application or brushing	Industrial SU3	- Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]; elevated temperature [CS111]		0.50		0.50
36	PROC 10 - Roller application or brushing	Industrial SU3	- Rolling, Brushing [CS51].	elevated temperature [CS111]		1.00		1.00
37	PROC 10 - Roller application or brushing	Industrial SU3	- Equipment cleaning and maintenance [CS39].	elevated temperature [CS111]	equipment prewashed/ rinsed automatically	0.60	0.26	0.86
38	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	- Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
39	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	- Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.60		0.60
40	PROC 13 -Treatment of articles by dipping and pouring	Industrial SU3	- Dipping, immersion and pouring [CS4].	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.60	0.22	0.82
41	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	- Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.25		0.25
42	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	- Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.90		0.90
43	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	- Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50	0.28	0.78
44	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Industrial SU3	- Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	0.90		0.90

Generic Exposure Scenario: <b>Industrial Processes relevant for Phenol and Phenol containing products</b>					Risk Characterization		
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)
45	PROC 15 - Use of laboratory reagents in small scale laboratories	Industrial SU3	Laboratory activities [CS36].	with local exhaust ventilation [CS109] occasional exposure @ temp < 58 °C = low volatility	0.25		0.25

Identified Professional Generic Exposure Scenarios (GESs) of Phenol

GES No.	Subsector	Main SU	Description	PROC	ERC	Phenol
EC No.						203-632-7
CAS No.						108-95-2
1	Use in laboratories	All Professional Uses (SU22)	Use of small quantities within laboratory settings, including material transfers and equipment cleaning	PROC10, PROC15	ERC8a ERCs are to be checked with the ECT tool	x
2	Uses in Coatings	All Professional Uses (SU22)	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods), and equipment cleaning, maintenance and associated laboratory activities.	PROC5, PROC8a, PROC10, PROC13	ERC8a, ERC8c, ERC8d, ERC8f ERCs are to be checked with the ECT tool	x up to 3%
3	Use as binders and release agents	All Professional Uses (SU22)	Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11	ERC8a, ERC8b, ERC8c, ERC8d, ERC8e, ERC8f ERCs are to be checked with the ECT tool	x + PROC14
4	Polymer manufacturing	All Professional Uses (SU22)	Manufacturing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance.	PROC8a	ERC8a, ERC8d, ERC8c, ERC8f ERCs are to be checked with the ECT tool	x + PROC1 PROC2 PROC8b PROC9 PROC14
5	Polymer processing	All Professional Uses (SU22)	Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance.	PROC8a	ERC8a, ERC8d, ERC8c, ERC8f ERCs are to be checked with the ECT tool	x + PROC1 PROC2 PROC8b PROC9 PROC14
6	Phenolic Resin processing (DU uses of Phenolic Resins)	All Professional Uses (SU22)	Processing resins including material transfers, moulding and forming activities, material re-works and associated maintenance. Identified DU uses eg: Foundry, Hot Tops and refractory, Electrical laminates, Felt bonding, Friction, Mineral wool, Wood products, Impregnated paper, abrasives, Foam.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC15	ERC2, ERC4, ERC6b, ERC6c, ERC6d ERCs are to be checked with the ECT tool	x

<sup>2</sup> Polymer Examples: FRP, UV, VE

Please note also: PC's and AC's are only for consumer.  
For checking ERC's please use the respective environmental calculation tool (ECT) ECT Acetone or ECT Phenol or ECT Cumene or ECT AMS or ECT ACP



Identified Professional PROCs

PROC No.	Phenol
EC No.	203-632-7
CAS No.	108-95-2
PROC1	x
PROC2	x
PROC3	x
PROC4	x
PROC5	x
PROC6	x
PROC8a	x
PROC8b	x
PROC9	x
PROC10 (2 uses)	x
PROC11	x
PROC13	x
PROC14	x
PROC15	x
<b>Sum</b>	<b>14</b>

Worksheet 2. Worker Chemical Safety Assessment Template: Tables 1 and 2 - Worker Chemical Safety Assessment (CSA)				
Substance specific information		Reference Values		
Substance	Phenol	DNEL worker - inhalation (long term)	2	ppm
CASnr	108-95-2	DNEL worker - inhalation (short term)	4	ppm
Substance volatility:	0.2 hPA	DNEL worker - dermal (long term)	1	mg/kg/day
TRA volatility range	low			
physical property	liquid			
Section 1	Exposure Scenario Title			
Exposure Scenario	Main sector of Use: SU22 = All Professional Uses			
Processes, tasks, activities covered	All Professional Processes relevant for Phenol and Phenol containing products.			
Life Cycle Stage / Sector of Use	SU22 = All Professional Uses			
Applicable Use Descriptors (PROC or PC)	PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC15			
Applicable Use Descriptors (ERC or SpERC)	ERCs and local conditions are to be checked with the Excel tool ECT Phenol			
Default Operational Conditions				
Product characteristics				
Acute Hazard	R34 - corrosive - moderate hazard: C >= 3 % R36/38 - irritant: 1 % <= C < 3 %			
<b>General measures</b>	<p><b>Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance.</b></p> <p><b>Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions [G25].</b></p>			
concentration of substance in product	Covers percentage substance in the product between 3 and 100 % (unless stated differently) [G13a].			
physical form of product	Liquid, vapour pressure < 0.5 kPa [OC3].; Liquid, vapour pressure 0.5 - 10 kPa [OC4].			
frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]			
other Operational Conditions of use	Assumes a good basic standard of occupational hygiene is implemented [G1]. ;			

<b>Section 2</b>	<b>Operational conditions and risk management measures</b>
<b>Section 2.1</b>	<b>Control of environmental exposure</b>
Product characteristics	<a href="#">substance is a unique structure, phenol, aromatic alcohol, biodegradable</a>
Amounts used	<a href="#">Annual site tonnage (tonnes/year): please use the Excel-Tool 'ECT Phenol' to calculate your maximum tonnage/year</a>
Frequency and duration of use	<a href="#">Emission Days (days/year): 360d/y</a>
Other Operational Conditions of use affecting environmental exposure	<a href="#">Indoor/Outdoor use</a>
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	<a href="#">Common practices vary across sites thus conservative process release estimates used. Typical technical measures are closed systems or scrubbers or charcoal adsorbers. Typical onsite offgas treatment technology provides removal efficiency of 90 %</a>
Organisation measures to prevent/limit release from site	<a href="#">Common practices vary across sites thus conservative process release estimates used. Please use the Excel-Tool 'ECT Phenol' to check your local conditions.</a>
Conditions and measures related to municipal sewage treatment plant	<a href="#">Please use the Excel-Tool 'ECT Phenol' to check your local conditions.</a>
Conditions and measures related to external treatment of waste for disposal	<a href="#">External treatment and disposal of waste should comply with applicable regulations</a>
Conditions and measures related to external recovery of waste	<a href="#">External treatment and disposal of waste should comply with applicable regulations</a>
Other environmental control measures additional to above	
<b>Section 2.2</b>	<b>Control of worker exposure</b>
	<a href="#">see chapter RMMs</a>
<b>Section 3</b>	<b>Exposure Estimation</b>
<b>3.1. Health</b>	<a href="#">GES Worker Chemical Safety Assessment (CSA) Template</a>
	<a href="http://cefic.org/templates/shwPublications.asp?HID=750">http://cefic.org/templates/shwPublications.asp?HID=750</a>
<b>3.2. Environment</b>	<a href="#">ECT Phenol</a>
	<a href="http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx">http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx</a>
<b>Section 4</b>	<b>Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>	<a href="#">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.</a>

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Risk Management Measures (RMMs)	
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	advised under REACH	
1	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].
2	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Limit the substance content in the product to 3% [OC17a].; Handle substance within a closed system [E47].Ensure material transfers are under containment or extract ventilation [E66].
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].Ensure material transfers are under containment or extract ventilation [E66].
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].Avoid carrying out activities involving exposure for more than 1 hour [27].
5	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Limit the substance content in the product to 3% [OC17a].; Handle substance within a closed system [E47].
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].Ensure material transfers are under containment or extract ventilation [E66].
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Handle substance within a closed system [E47].Ensure operation is undertaken outdoors [E69]. Avoid carrying out activities involving exposure for more than 1 hour [27].
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Sample via a closed loop or other system to avoid exposure [E8].; Limit the substance content in the product to 3% [OC17a].; Handle substance within a closed system [E47].Avoid carrying out activities involving exposure for more than 1 hour [27].
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Avoid carrying out activities involving exposure for more than 15 minutes [OC26].
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	Provide the operation with a properly sited receiving hood [E71].

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Risk Management Measures (RMMs)	
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	advised under REACH	
12	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a]. Avoid carrying out activities involving exposure for more than 4 hours [28]. Wear suitable gloves tested to EN374 [PPE15].
13	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28].
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Avoid carrying out activities involving exposure for more than 15 minutes [OC26].
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a]. Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28]. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].
16	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28].
17	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 15 minutes [OC26].
18	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28].
19	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	Limit the substance content in the product to 25% [OC18]. Provide the operation with a properly sited receiving hood [E71].
20	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 1 hour [27].
21	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	Provide the operation with a properly sited receiving hood [E71].
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	Ensure operation is undertaken outdoors [E69]. Avoid carrying out activities involving exposure for more than 1 hour [27]. Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]

Generic Exposure Scenario:		Professional Processes relevant for Phenol and Phenol containing products				Risk Management Measures (RMMs)
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs		advised under REACH
23	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
24	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 114.5 °C = medium volatility	Provide the operation with a properly sited receiving hood [E71].
25	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	Avoid carrying out activities involving exposure for more than 15 minutes [OC26].
26	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
27	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].
28	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 1 hour [27].
29	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	Equipment cleaning and maintenance [CS39]. ; with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 5% [OC17]. Ensure material transfers are under containment or extract ventilation [E66].
30	PROC 10 - Roller application or brushing	Professional - SU22	Equipment cleaning and maintenance [CS39].		equipment prewashed/ rinsed automatically	Limit the substance content in the product to 3% [OC17a]. Drain or remove substance from equipment prior to break-in or maintenance [E81]. Avoid carrying out activities involving exposure for more than 1 hour [27]. Wear chemically resistant gloves (tested to EN374) in combination with intensive management
31	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].		occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 25% [OC18]. Avoid carrying out activities involving exposure for more than 1 hour [27]. Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
32	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 5% [OC17]. Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 1 hour [27].
33	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 25% [OC18]. Ensure operation is undertaken outdoors [E69]. ; Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 15 minutes [OC26]

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Risk Management Measures (RMMs)	
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	advised under REACH	
34	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28]. Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28].
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	Avoid carrying out activities involving exposure for more than 15 minutes [OC26].
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	Limit the substance content in the product to 3% [OC17a]. Avoid carrying out activities involving exposure for more than 4 hours [28]. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].
35	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66]. Avoid carrying out activities involving exposure for more than 4 hours [28].
36	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	Ensure material transfers are under containment or extract ventilation [E66].
37	PROC 15 - Use of laboratory reagents in small scale laboratories	Professional - SU22	Laboratory activities [CS36].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	Ensure material transfers are under containment or extract ventilation [E66].

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products				Inhalation Exposure									
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
1	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.01						occasional exposure @ temp < 58 °C = low volatility	0.01
2	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.01		<3%				occasional exposure @ temp < 58 °C = low volatility	0.002
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	5	80					occasional exposure @ temp < 58 °C = low volatility	1
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	5			15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1
5	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	5		<3%				occasional exposure @ temp < 58 °C = low volatility	1
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	3	80					occasional exposure @ temp < 58 °C = low volatility	0.6
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3			1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.8
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	3		<3%	1-4 hours			occasional exposure @ temp < 58 °C = low volatility	0.36
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10	80					occasional exposure @ temp < 58 °C = low volatility	2
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10			<15 min			occasional exposure @ temp < 58 °C = low volatility	1
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	50	97					occasional exposure @ temp < 114.5 °C = low volatility	1.5
12	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10		<3%	1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.2
13	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	10	80		1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.2



Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products				Inhalation Exposure									
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10			<15 min			occasional exposure @ temp < 58 °C = low volatility	1
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10		<3%	1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.2
16	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10	80		1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.2
17	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	10			<15 min			occasional exposure @ temp < 58 °C = low volatility	1
18	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	100	80		1-4 hours	half mask		occasional exposure @ temp < 114.5 °C = low volatility	1.2
19	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	100	97	5-25%				occasional exposure @ temp < 114.5 °C = low volatility	1.8
20	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	25	80		15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1
21	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	100	99					occasional exposure @ temp < 114.5 °C = low volatility	1
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	25		30	15 min-1 hour	half mask		occasional exposure @ temp < 58 °C = low volatility	0.35
23	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	10	90					occasional exposure @ temp < 58 °C = low volatility	1
24	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 114.5 °C = medium volatility	50	99					occasional exposure @ temp < 114.5 °C = low volatility	0.5
25	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	10			<15 min			occasional exposure @ temp < 58 °C = low volatility	1
26	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	10				half mask		occasional exposure @ temp < 58 °C = low volatility	1

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Inhalation Exposure								
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
27	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	10	80					occasional exposure @ temp < 58 °C = low volatility	2
28	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	25	80		15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	1
29	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	Equipment cleaning and maintenance [CS39]. ; with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	25	80	<3%				occasional exposure @ temp < 58 °C = low volatility	1
30	PROC 10 - Roller application or brushing	Professional - SU22	Equipment cleaning and maintenance [CS39].		equipment prewashed/ rinsed automatically	25		<3%	15 min-1 hour			equipment prewashed/ rinsed automatically	1
31	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].		occasional exposure @ temp < 58 °C = low volatility	25		5-25%	15 min-1 hour	half mask		occasional exposure @ temp < 58 °C = low volatility	0.3
32	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	100	80	<3%	15 min-1 hour			occasional exposure @ temp < 58 °C = low volatility	0.8
33	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	100	80	30	<15 min			occasional exposure @ temp < 58 °C = low volatility	0.84
34	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	100	80		1-4 hours	half mask		occasional exposure @ temp < 58 °C = low volatility	1.2
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	10	80		1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.2
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	10			<15 min			occasional exposure @ temp < 58 °C = low volatility	1
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	10		<3%	1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.2
35	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	10	80		1-4 hours			occasional exposure @ temp < 58 °C = low volatility	1.2
36	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation of articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	100	99					occasional exposure @ temp < 114.5 °C = low volatility	1

Generic Exposure Scenario: <b>Professional Processes relevant for Phenol and Phenol containing products</b>					Inhalation Exposure								
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Exposure - (ppm) - no modifiers	TRA LEV : efficiency (%)	Dilution ventilation effectiveness (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (ppm) - modified
37	PROC 15 - Use of laboratory reagents in small scale laboratories	Professional - SU22	Laboratory activities [CS36]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	5	80					occasional exposure @ temp < 58 °C = low volatility	1

Generic Exposure Scenario:		Professional Processes relevant for Phenol and Phenol containing products				Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs		TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
1	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.34					n.a. for corrosive mixtures, phenol resistant PPE is worn	
2	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.34		<3%				0.07
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	1.37	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	1.37					n.a. for corrosive mixtures, phenol resistant PPE is worn	
5	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	1.37		<3%				0.27
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	0.34	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.34					n.a. for corrosive mixtures, phenol resistant PPE is worn	
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.34		<3%				0.07
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86					n.a. for corrosive mixtures, phenol resistant PPE is worn	
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	6.86	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
12	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	6.86		<3%	gloves			0.27
13	PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	13.71	0.005				n.a. for corrosive mixtures, phenol resistant PPE is worn	

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71				n.a. for corrosive mixtures, phenol resistant PPE is worn	
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71		<3%	gloves-basic training		0.27
16	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	27.43	0.05			n.a. for corrosive mixtures, phenol resistant PPE is worn	
17	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	27.43	0.05			n.a. for corrosive mixtures, phenol resistant PPE is worn	
18	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	27.43	0.05			n.a. for corrosive mixtures, phenol resistant PPE is worn	
19	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	27.43	0.05			n.a. for corrosive mixtures, phenol resistant PPE is worn	
20	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	13.71	0.01			n.a. for corrosive mixtures, phenol resistant PPE is worn	
21	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	13.71	0.01			n.a. for corrosive mixtures, phenol resistant PPE is worn	
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	13.71				n.a. for corrosive mixtures, phenol resistant PPE is worn	
23	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	6.86	0.1			n.a. for corrosive mixtures, phenol resistant PPE is worn	
24	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 114.5 °C = medium volatility	6.86	0.1			n.a. for corrosive mixtures, phenol resistant PPE is worn	
25	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	6.86				n.a. for corrosive mixtures, phenol resistant PPE is worn	
26	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	6.86				n.a. for corrosive mixtures, phenol resistant PPE is worn	

Generic Exposure Scenario:		Professional Processes relevant for Phenol and Phenol containing products				Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs		TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
27	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 58 °C = low volatility	6.86	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
28	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	27.43	0.05				n.a. for corrosive mixtures, phenol resistant PPE is worn	
29	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	Equipment cleaning and maintenance [CS39]. ; with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	27.43	0.05	<3%				0.27
30	PROC 10 - Roller application or brushing	Professional - SU22	Equipment cleaning and maintenance [CS39].		equipment prewashed/ rinsed automatically	27.43		<3%	gloves-intensive controls			0.11
31	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].		occasional exposure @ temp < 58 °C = low volatility	27.43		5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
32	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	107.14	0.02	<3%				0.43
33	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	107.14	0.02	5-25%			n.a. for corrosive mixtures, phenol resistant PPE is worn	
34	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	107.14	0.02				n.a. for corrosive mixtures, phenol resistant PPE is worn	
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	13.71	0.05				n.a. for corrosive mixtures, phenol resistant PPE is worn	
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	13.71					n.a. for corrosive mixtures, phenol resistant PPE is worn	
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	13.71		<3%	gloves-basic training			0.27
35	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	3.43	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	
36	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	3.43	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	

Generic Exposure Scenario:		Professional Processes relevant for Phenol and Phenol containing products				Dermal Exposure						
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs		TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified
37	PROC 15 - Use of laboratory reagents in small scale laboratories	Professional - SU22	Laboratory activities [CS36].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	0.34	0.1				n.a. for corrosive mixtures, phenol resistant PPE is worn	

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Risk Characterization			
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)	
1	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.01		0.01
2	PROC 1 - Use in closed process, no likelihood of exposure	Professional - SU22	General exposures (closed systems) [CS15].	(closed systems) [CS107]; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.00	0.06	0.06
3	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
4	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
5	PROC 2 - Use in closed, continuous process with occasional controlled exposure	Professional - SU22	General exposures (closed systems) [CS15].	Continuous process [CS54]. ; Process sampling [CS2]. ; elevated temperature [CS111]; (closed systems) [CS107]	occasional exposure @ temp < 58 °C = low volatility	0.50	0.22	0.72
6	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	0.30		0.30
7	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.90		0.90
8	PROC 3 - Use in closed batch process (synthesis or formulation)	Professional - SU22	General exposures (closed systems) [CS15].	Batch process [CS55]. ; (closed systems) [CS107]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.18	0.06	0.24
9	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	1.00		1.00
10	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
11	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	0.75		0.75



Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Risk Characterization			
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)	
12	PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Professional - SU22	Process sampling [CS2]. ; (open systems) [CS108]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.60	0.22	0.82
13	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; with local exhaust ventilation [CS109];	occasional exposure @ temp < 58 °C = low volatility	0.60		0.60
14	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
15	PROC 5 -Mixing or blending in batch processes (multistage and/or significant contact)	Professional - SU22	Mixing operations (open systems) [CS30].	Batch process [CS55]. ; Process sampling [CS2]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.60	0.22	0.82
16	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.60		0.60
17	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
18	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	0.60		0.60
19	PROC 6 -Calendering operations	Professional - SU22	Calendering (including Banburys) [CS64]	with local exhaust ventilation [CS109]; elevated temperature [CS111]	occasional exposure @ temp < 114.5 °C = medium volatility	0.90		0.90
20	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22].	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
21	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation	occasional exposure @ temp < 114.5 °C = medium volatility	0.50		0.50
22	PROC 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Non-dedicated facility [CS82]; Transfer from/pouring from containers [CS22]. ; elevated temperature [CS111]	occasional exposure @ temp < 58 °C = low volatility	0.18		0.18

Generic Exposure Scenario:		Professional Processes relevant for Phenol and Phenol containing products				Risk Characterization			
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs		RCR (inhalation)	RCR (dermal)	RCR (all routes)	
23	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].		occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
24	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].		occasional exposure @ temp < 114.5 °C = medium volatility	0.25		0.25
25	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].		occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
26	PROC 8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22].		occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
27	PROC 9 -Transfer of chemicals into small containers (dedicated filling line)	Professional - SU22	Bulk transfers [CS14].	Dedicated facility [CS81]; Transfer from/pouring from containers [CS22]. ; with local exhaust ventilation		occasional exposure @ temp < 58 °C = low volatility	1.00		1.00
28	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	with local exhaust ventilation [CS109]		occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
29	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].	Equipment cleaning and maintenance [CS39]. ; with local exhaust ventilation [CS109]		occasional exposure @ temp < 58 °C = low volatility	0.50	0.22	0.72
30	PROC 10 - Roller application or brushing	Professional - SU22	Equipment cleaning and maintenance [CS39].			equipment prewashed/ rinsed automatically	0.50	0.09	0.59
31	PROC 10 - Roller application or brushing	Professional - SU22	Rolling, Brushing [CS51].			occasional exposure @ temp < 58 °C = low volatility	0.15		0.15
32	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]		occasional exposure @ temp < 58 °C = low volatility	0.40	0.35	0.75
33	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]		occasional exposure @ temp < 58 °C = low volatility	0.42		0.42

Generic Exposure Scenario: Professional Processes relevant for Phenol and Phenol containing products					Risk Characterization			
No	Use Descriptor (PROCs)	SU 3 / SU 22	Contributing Scenario	Operational Conditions & typical RMMs	RCR (inhalation)	RCR (dermal)	RCR (all routes)	
34	PROC 11 - Non industrial spraying	Professional - SU22	Spraying/fogging by manual application [CS24].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	0.60		0.60
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	0.60		0.60
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	0.50		0.50
35	PROC 13 -Treatment of articles by dipping and pouring	Professional - SU22	Dipping, immersion and pouring [CS4].		occasional exposure @ temp < 58 °C = low volatility	0.60	0.22	0.82
35	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	0.60		0.60
36	PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	Professional - SU22	Production or preparation or articles by tableting, compression, extrusion or pelletisation [CS100]	with local exhaust ventilation [CS109]	occasional exposure @ temp < 114.5 °C = medium volatility	0.50		0.50
37	PROC 15 - Use of laboratory reagents in small scale laboratories	Professional - SU22	Laboratory activities [CS36].	with local exhaust ventilation [CS109]	occasional exposure @ temp < 58 °C = low volatility	0.50		0.50