

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 |
| CAS No. | | | | | | 108-95-2 |
| 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 |

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

² 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 |
| Sum | 14 |

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: SU3 = All Industrial Uses | | |
| 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 | | | |
| Default Operational Conditions | | | | |
| Product characteristics | | | | |
| Acute Hazard | R34 - corrosive - moderate hazard: C >= 3 % R36/38 - irritant: 1 % <= C < 3 % | | | |
| General measures | 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. 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]. | | | |
| 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]. ; | | | |
| | | | | |

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

| Generic Exposure Scenario: Industrial 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 | 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: Industrial 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 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: Industrial 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 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: Industrial 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 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: Industrial 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 |
| 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: Industrial 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 | 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: Industrial 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) | 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: Industrial 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 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: Industrial 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 |
| 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: Industrial 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 | 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: Industrial 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 |
| 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: Industrial 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 |
| 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: Industrial 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 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: Industrial 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 | 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: Industrial 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 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: Industrial 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 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: Industrial 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 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: <u>Industrial Processes relevant for Phenol and Phenol containing products</u> | | | | | 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 |

² 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 |
| Sum | 14 |

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 % | | | |
| General measures | 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. 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]. | | | |
| 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]. ; | | | |
| | | | | |

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

| 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]. |
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| 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: 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 |
| 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 |
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| 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 | |
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| 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 |
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