



SAFETY DATA SHEET (1907/2006)

R0719021

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Formaldehyde 30% stab. 2% Methanol

ANNEX

Contents

1. General aspects.....	2
1.1 Qualitative exposure assessment	2
1.1.1 Worker exposure	2
1.1.2 Environment	5
1.1.3 Consumer exposure	5
1.2 Overview of exposure scenarios.....	6
2. Exposure Scenario 1: Manufacturing of formaldehyde and aq. formaldehyde solutions and use as intermediate.....	10
3. Exposure Scenario 2: Formulation of preparations	38
4. Exposure Scenario 3: Industrial use of preparations containing formaldehyde up to 60%	65
5. Exposure Scenario 4: Industrial use of preparations containing formaldehyde up to 5%	73
6. Exposure Scenario 5: Industrial use of preparations containing formaldehyde up to 2.5%	104
7. Exposure Scenario 6: Industrial use of preparations containing formaldehyde up to 1.5%	136
8. Exposure Scenario 7: Industrial use of preparations containing formaldehyde up to 1%	168
9. Exposure Scenario 8: Professional use of preparations containing formaldehyde up to 1.5%	200
10. Exposure Scenario 9: Professional use of preparations containing formaldehyde up to 1%	226

1. General aspects

1.1 Qualitative exposure assessment

1.1.1 Worker exposure

1.1.1.1 General hazards

Formaldehyde as a pure substance is classified/labeled for severe skin burns and eye damage (H314/R34). The substance is also classified/labeled for skin sensitization effects (H317/R43). Besides that, formaldehyde is also suspected of causing cancer (H351/R40) in case of chronic respiratorial exposure. See Table 1 for general conditions related to different types of processes.

According to the specific concentration limits for Formaldehyde:

1. Causing severe skin burns and eye damage (H314/R34) applies if the Formaldehyde concentration in preparation is $\geq 25\%$.
2. Skin and eye irritation effects may occur (H315/ R38, H319/R36) in case of using preparations with a Formaldehyde content $\geq 5\%$ - $< 25\%$.
3. Risk for skin sensitization effects (H317/R43) applies in case of using preparations with a Formaldehyde concentration $\geq 0.2\%$.

Table 1. General conditions related to different types of processes

Type of process	Operational conditions
Closed system:	<p>Product is vapour</p> <p>Covers percentage substance in the product up to 100%</p> <p>Assumes use at not more than 150°C</p> <p>Potential contact between substance and air controlled by high level containment (99.9% reduction)</p> <p>Sealed and enclosed system which is not opened during the activity. System is designed to minimize the surface area which can contact the material or pairs of valves with wash space between them.</p> <p>Reduction of duration of activity is not required</p> <p>Indoor, large industrial workrooms (300 m3)</p> <p>Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)</p>
Closed Process:	<p>Product is vapour</p> <p>Assumes use at not more than 150°C</p> <p>Covers percentage substance in the product up to 100%</p> <p>Medium level of containment (99% reduction) by means of physical containment or enclosure of the source of emission</p> <p>Reduce duration of activity to less than 360 min</p> <p>Indoor, large industrial workrooms (300 m3)</p> <p>Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)</p>
Dedicated transfer:	<p>Product is liquid</p> <p>Covers percentage substance in the product up to 60%</p> <p>Use rate >1000 L/min</p> <p>Reduce duration of activity to less than 60 min</p> <p>Ensure submerged loading</p> <p>Medium level of containment (99% reduction) by means of physical containment or enclosure of the source of emission and sealed couplings</p> <p>The material transfer is enclosed with the receiving vessel being docked or sealed to the source vessel.</p> <p>Vapour recovery system</p> <p>Indoor, large industrial workrooms (300 m3)</p> <p>Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)</p> <p>Wear a suitable respiratory protection with adequate effectiveness (90%).</p>

Open parts of the process:	<p>Open surface < 0.1 m²</p> <p>Product is liquid</p> <p>Covers percentage substance in the product up to 60%</p> <p>Reduce duration of activity to less than 60 min</p> <p>Provide extract ventilation to points where emissions occur (LEV).</p> <p>Indoor, large industrial workrooms (300 m³)</p> <p>Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)</p> <p>Wear a suitable respiratory protection with adequate effectiveness (95%).</p>
Use of formalin with 30 - 62% Formaldehyde in water:	<p>Product is liquid</p> <p>Transfer of liquid products - falling liquids</p> <p>Use rate 100-1000 L/min</p> <p>Ensure submerged loading</p> <p>Medium level of containment (99% reduction) by means of physical containment or enclosure of the source of emission and sealed couplings</p> <p>The material transfer is enclosed with the receiving vessel being docked or sealed to the source vessel.</p> <p>Reduction of duration of activity is not required</p> <p>Indoor, large industrial workrooms (300 m³)</p> <p>Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)</p> <p>Wear a suitable respiratory protection with adequate effectiveness (90%).</p>
Handling products containing up to 5 % Formaldehyde	<p>Product is liquid</p> <p>Transfer of liquid products - falling liquids</p> <p>Use rate 100-1000 L/min</p> <p>Ensure submerged loading</p> <p>Medium level of containment (99% reduction) by means of physical containment or enclosure of the source of emission and sealed couplings</p> <p>The material transfer is enclosed with the receiving vessel being docked or sealed to the source vessel.</p> <p>Reduction of duration of activity is not required</p> <p>Indoor, large industrial workrooms (300 m³)</p> <p>Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)</p>
Handling products containing up to 1.5 % Formaldehyde	<p>Product is liquid</p> <p>Transfer of liquid products - falling liquids</p> <p>Use rate 100-1000 L/min</p> <p>Ensure submerged loading</p> <p>Medium level of containment (99% reduction) by means of physical containment or enclosure of the source of emission and sealed couplings</p> <p>The material transfer is enclosed with the receiving vessel being docked or sealed to the source vessel.</p> <p>Reduction of duration of activity is not required</p> <p>Indoor, large industrial workrooms (300 m³)</p> <p>Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)</p>
In case of outdoor use:	Vapour recovery system

Exposure value used:	Time weighted average exposure level using the upper interquartile confidence limits of the 75th percentile estimates of all sources for a full shift exposure
Eyes when handling products containing > 2.5 % Formaldehyde	Use suitable eye protection.
Dermal short-term local at handling liquids containing Formaldehyde concentrations $\geq 5\%$	Wear chemically resistant gloves in combination with intensive management supervision control.

1.1.1.2 Eyes

Applications of preparations with a Formaldehyde content 1.

between 1 and 2.5% : no risk of eye effects in ES 3 till 9;

2. 5%: serious irritation effects on the eyes in ES 4; 3. \geq

25%: serious damage to the eyes in ES 1, 2 and 3.

Exposure to the eyes can occur in two ways: direct from the air (splashes, aerosols, dust) or indirect via hand-eye contact. The likelihood/frequency of hand-eye contact is considered to be low due to the fact that the likelihood of actual hand exposure is at most low and workers have been trained to prevent exposure. For PROCs where aerosols are formed, the intensity of exposure due to contact of the eyes with air is estimated to be high due to the formation of aerosols.

Because of the severe nature of the effect, all risks should be avoided. Therefore, suitable eye protection like goggles, face shields or full face masks should be worn at the workplace to prevent eye exposure in all processes with mixtures containing $\geq 5\%$ Formaldehyde. With the above described measures taken into account, the actual eye exposure is low and the risk of severe eye damage is considered to be controlled.

1.1.1.3 Skin

Skin sensitization: Applicable in all processes, because in every case the concentration of Formaldehyde is assumed to be above the concentration limit of 0.2 %. Hence, the risk of skin sensitization is evaluated qualitatively for all processes.

Applications of preparations with a Formaldehyde content:

1. Risk of severe skin burns handling Formaldehyde preparations in ES 1, 2 and 3
2. Skin irritation may occur handling Formaldehyde preparations in ES 4
3. Handling preparations with 1-2.5% Formaldehyde in ES 4 till 9 does not give rise to irritating effects on the skin.

Table 2 contains the evaluation of skin exposures according to the various procedures (PROCs). **Table 2: Evaluation of skin exposures according to the various procedures (PROCs):**

PROCs	Evaluation	Conclusion
1, 2, 3, 8b, 9, 14, 15, 16, 21, 22, 23, 25	The likelihood/frequency of dermal exposure is considered to be low; actual exposure will be largely prevented by containment of the processes and use of chemically resistant gloves	With the protective measures described in the exposure scenario taken into account, the actual dermal exposure is very low and the risk of skin effects is considered to be controlled.
4, 5, 6, 8a, 10, 13, 24	Likelihood and frequency of exposure may be high due to the open nature of the processes. The intensity of exposure may in some cases potentially be high as well, however, actual exposure will be largely prevented by use of chemically resistant gloves.	With the protective measures described in the exposure scenario taken into account, the actual dermal exposure is low and the risk of skin effects is considered to be controlled.

7, 11	The process of industrial and professional spraying described by PROC 7 and 11 respectively is considered an open process with aerosol formation. Both the likelihood/frequency and the intensity of dermal exposure are considered high. However, actual exposure will be largely prevented by use of chemically resistant gloves.	With the protective measures described in the exposure scenario taken into account, the actual dermal exposure is low and the risk of skin effects is considered to be controlled.
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1.1.2 Environment

In the chemical safety assessment performed according to Article 14(3) in connection Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/ vPvB Assessment) no hazard was identified. Therefore according to REACH Annex I (5.0) an exposure-estimation is not necessary. Consequently all identified uses of the substance are assessed as safe for the environment.

1.1.3 Consumer exposure

Formaldehyde is present in small concentrations in preparations like detergents, coatings and adhesives. Regarding consumer uses, the concentration of formaldehyde in this type of preparations does not exceed 0.1%. According to Article 14-2, the use of this type of preparations by consumers does not need to be evaluated in the chemical safety assessment.

The use of formaldehyde in resins, which are used in the production of articles like paper, panel boards and textiles, will result in a service life stage. For this stage, percentages of formaldehyde in the final article are below 0.1%. This percentage is maintained by the use of certification marks which are in place for panel boards, wall papers and floorings. It could be argued based on the article mentioned above that no Exposure Scenario is necessary for formaldehyde in articles in such low concentrations.

1.2 Overview of exposure scenarios

Table 3 Short description of all exposure scenarios with their use descriptors and life cycle stage

Number (ES)	Identified Uses covered	Short description of exposure scenario	Product Category (PC)	Life cycle stage covered by ES						Sector of use (SU)	Process category (PROC)	Article Category (AC)	Environmental release category ERC
				Manufacture	Formulation	End use			Service Life				
						Industrial	Professional	Consumer					
1	IU1, IU2	Manufacturing of Formaldehyde + aq. formaldehyde solutions and use as intermediate Consortium use numbers covered: 1; production of formaldehyde (IU1) 8/9; use as intermediate including use as a monomer (IU2)	NA	X						3, 8, 9, 10, 12	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 14, 15	NA	1, 2, 3, 4, 6a, 6b, 6c, 6d, 7
2	IU3	Formulation of preparations Consortium use covered: Formulation of preparations (IU3)	NA		X					3, 10	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 14, 15	NA	2, 3
3	IU14	industrial use of preparations containing formaldehyde up to 60% Consortium use number covered: 16; production of fertilizer granules (IU14)	NA			X				3,8	1, 2	NA	5

4	IU4, IU8, IU9, IU10, IU13, IU15, IU16	industrial use of preparations containing formaldehyde up to 5% Consortium use number covered: Industrial use of formaldehyde products (IU4) 2; production of foams (IU15) 10; production of bonded particulates (IU8) 11; use of adhesives and coatings (IU9) 13; production of rubber (IU10) 14; production of firelighters (IU16) 15; production of leather (IU13)				X				2a, 3, 5, 8, 9, 10, 11, 12, 13, 14, 17, 19	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 13, 14, 16, 21, 22, 23, 24, 25	NA	2, 3, 5, 6c, 6d
5	IU4, IU5, IU6, IU7, IU11, IU12	industrial use of preparations containing formaldehyde up to 2.5% Consortium use numbers covered: Industrial use of formaldehyde products (IU4) 3; production of woodbased materials (IU5)				X				3, 5, 6a, 6b, 10, 11, 12, 13, 18,	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9,	NA	2, 3, 5, 6c, 6d

Number (ES)	Identified Uses covered	Short description of exposure scenario	Product Category (PC)	Life cycle stage covered by ES						Sector of use (SU)	Process category (PROC)	Article Category (AC)	Environmental release category ERC
				Manufacture	Formulation	End use			Service Life				
						Industrial	Professional	Consumer					
		4; production of impregnated paper (IU6) 5; production of paper (IU12) 6; impregnation of textile (IU11) 7; production of bonded fibers or fiber mats (IU7)							19	10, 13, 14, 16, 21, 22, 23, 24, 25			

6	IU4, IU8, IU9, IU10, IU13, IU15, IU16	industrial use of preparations containing formaldehyde up to 1.5% Consortium use number covered: Industrial use of formaldehyde products (IU4) 2; production of foams (IU15) 10; production of bonded particulates (IU8) 11; use of adhesives and coatings (IU9) 13; production of rubber (IU10) 14; production of firelighters (IU16) 15; production of leather (IU13)	NA							2a, 3, 5, 8, 9, 10, 11, 12, 13, 14, 17, 19	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 13, 14, 16, 21, 22, 23, 24, 25	NA	2, 3, 5, 6c, 6d
7	IU4, IU5, IU6, IU7, IU11, IU12	industrial use of preparations containing formaldehyde up to 1% Consortium use numbers covered: Industrial use of formaldehyde products (IU4) 3; production of woodbased materials (IU5) 4; production of impregnated paper (IU6) 5; production of paper (IU12) 6; impregnation of textile (IU11) 7; production of bonded fibers or fiber mats (IU7)	NA							3, 5, 6a, 6b, 10, 11, 12, 13, 18, 19	1, 2, 5, 6, 7, 8a, 8b, 9, 10, 13, 14, 24	NA	2, 3, 5, 6c, 6d
8	IU17, IU19, IU20, IU21, IU22	professional use of preparations containing formaldehyde up to 1.5% Consortium use numbers covered: Professional use of formaldehyde products (IU17) 2p; production of foams (IU21) 11p; application of adhesives and coatings (IU19) 14p; use of firelighters (IU20) 21p; cleaning agents (IU22)	8, 9a, 13, 31, 35, 39							22	5, 8a, 8b, 10, 11, 13, 15, 16, 19, 21, 22, 23, 24, 25	NA	8a, 8b, 8c, 8d, 8f
9	IU17 IU 18	professional use of preparations containing formaldehyde up to 1% Consortium use number covered: Professional use of formaldehyde products (IU17)	1							22	5, 8a, 8b, 10, 15	11	8a, 8c, 8f
Number (ES)		Short description of exposure scenario		Life cycle stage covered by ES									
						End use							

	Identified Uses covered		Product Category (PC)	Manufacture	Formulation	Industrial	Professional	Consumer	Service Life	Sector of use (SU)	Process category (PROC)	Article Category (AC)	Environmental release category ERC
		3p; professional use of resins in wood applications (e.g. glues) (IU18)											
10	IU23, IU24, IU25, IU26	<p>Consumer use of formaldehyde based products Consortium use numbers covered: Consumer use of formaldehyde based products (IU23) 11c; application of adhesives and coatings (IU24) 14c; use of firelighters (IU25) 21c; cleaning agents (IU26) According to the paragraph on consumer exposure in the general remarks of this chapter (see page 267), no exposure scenario has to be developed for consumer use as the percentage of formaldehyde is below 0.1%</p>	1, 3, 8, 9a, 9b, 9c, 13, 15, 18, 21, 23, 31, 32, 35, 37, 39					X		21	NA	NA (free formald ehyde < 0.1%)	8a,8b,8c, 8d,8f,10 a,11a

NA= Not Applicable

2. Exposure Scenario 1: Manufacturing of formaldehyde and aq. formaldehyde solutions and use as intermediate

Free short title	Manufacturing of formaldehyde and aq. formaldehyde solutions and use as intermediate
Systematic title based on use descriptor	PROC 1, 2, 3, 4, 5, 6, 8A, 8B, 9, 14, 15
Name(s) of contributing worker scenarios and corresponding PROCs	<p>PROC 1 - Use in closed process, no likelihood of exposure</p> <p>PROC 2 - Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3 - Use in closed batch process (synthesis or formulation)</p> <p>PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 6 - Calendering operations</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 9 - Transfer of chemicals into small containers (dedicated filling line)</p> <p>PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 15 - Use of laboratory reagents in small scale laboratories</p>

2.1 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-long term	
Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure-long term systemic and long term local
Product characteristics	
Physical state	Vapour
Concentration in substance	100 %
Fugacity / Dustiness	High
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	

Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	High level containment (99.9% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)

of 190

Respiratory protection	no
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2.2 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-short term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure-short term local
Product characteristics	
Physical state	Vapour
Concentration in substance	100 %
Fugacity / Dustiness	High
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	High level containment (99.9% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

**2.3 Contributing Scenario (2) controlling industrial worker exposure for PROC 2-
Use in closed, continuous process with occasional controlled exposure-long term**

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure- long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 120 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

**2.4 Contributing Scenario (2) controlling industrial worker exposure for PROC 2-
Use in closed, continuous process with occasional controlled exposure-short term**

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure- short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

2.5 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-long term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis/formulation)- long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%

Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 120 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

2.6 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-short term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis/formulation)-short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

2.7 Contributing Scenario (4) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises-long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4 Use in batch or other process (synthesis) where opportunity for exposure arises - long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 60 min Open parts: 60 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial

Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

2.8 Contributing Scenario (4) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises-short term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4 Use in batch or other process (synthesis) where opportunity for exposure arises - short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

2.9 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)- long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 60 min Open parts: 60 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

2.10 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact)- short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)

Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

2.11 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-long term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	90 %

2.12 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-short term

Name of contributing scenario	6 - Calendering operations
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Scenario subtitle	CS 6 Calendering operations - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

2.13 Contributing Scenario (7a) controlling industrial worker exposure for PROC 8A-Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)

Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

2.14 Contributing Scenario (7a) controlling industrial worker exposure for PROC 8A-Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

2.15 Contributing Scenario (7b) controlling industrial worker exposure for PROC 8A-Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde)-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)

Respiratory protection	No
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2.16 Contributing Scenario (7b) controlling industrial worker exposure for PROC 8A-Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde)-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

2.17 Contributing Scenario (7c) controlling industrial worker exposure for PROC 8A-Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde)-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
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Scenario subtitle	CS 7c Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

2.18 Contributing Scenario (7c) controlling industrial worker exposure for PROC 8A Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde)-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7c Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %

Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

2.19 Contributing Scenario (8a) controlling industrial worker exposure for PROC 8B-Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 – 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	

Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

2.20 Contributing Scenario (8a) controlling industrial worker exposure for PROC 8B-Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)

Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

2.21 Contributing Scenario (8b) controlling industrial worker exposure for PROC 8B-Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8b Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

2.22 Contributing Scenario (8b) controlling industrial worker exposure for PROC 8B-Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8b Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

2.23 Contributing Scenario (8c) controlling industrial worker exposure for PROC 8B-Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8c Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium

Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

2.24 Contributing Scenario (8c) controlling industrial worker exposure for PROC 8B-Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8c Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

2.25 Contributing Scenario (9a) controlling industrial worker exposure for PROC 9 Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%-60% formaldehyde)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9a Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%60% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

2.26 Contributing Scenario (9a) controlling industrial worker exposure for PROC 9 Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%-60% formaldehyde)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9a Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%60% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

2.27 Contributing Scenario (9b) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9b Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde) - long term systemic and long term local
Product characteristics	

Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

2.28 Contributing Scenario (9b) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9b Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

2.29 Contributing Scenario (9c) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)-long-term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9c Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)- long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	

Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

2.30 Contributing Scenario (9c) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9c Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)- short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

2.31 Contributing Scenario (10) controlling industrial worker exposure for PROC 14-Production of preparations or articles by tableting, compression, extrusion, pelletisation-long term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
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Scenario subtitle	CS 10 Production of preparations or articles by tableting, compression, extrusion, pelletisation- long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	90 %

2.32 Contributing Scenario (10) controlling industrial worker exposure for PROC 14-Production of preparations or articles by tableting, compression, extrusion, pelletisation-short term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 10 Production of preparations or articles by tableting, compression, extrusion, pelletisation- short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low

Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

2.33 Contributing Scenario (11) controlling industrial worker exposure for PROC

15-Use of laboratory reagents in small scale laboratories-long term

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 11 Use as a laboratory reagent- long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Fume cupboard

Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	no

2.34 Contributing Scenario (11) controlling industrial worker exposure for PROC

15-Use of laboratory reagents in small scale laboratories-short term

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 11 Use as a laboratory reagent- short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Fume cupboard
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

3. Exposure Scenario 2: Formulation of preparations

Free short title	Formulation of preparations
Systematic title based on use descriptor	PROC 1, 2, 3, 4, 5, 6, 8A, 8B, 9, 14, 15
Name(s) of contributing worker scenarios and corresponding PROCs	<p>PROC 1 - Use in closed process, no likelihood of exposure</p> <p>PROC 2 - Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3 - Use in closed batch process (synthesis or formulation)</p> <p>PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 6 - Calendering operations</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 9 - Transfer of chemicals into small containers (dedicated filling line)</p> <p>PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 15 - Use of laboratory reagents in small scale laboratories</p>

3.1 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-long term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure-long term systemic and long term local
Product characteristics	
Physical state	Vapour
Concentration in substance	100 %
Fugacity / Dustiness	High
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	High level containment (99.9% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Eyes	Use suitable eye protection
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	no

3.2 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-short term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure- short term local
Product characteristics	
Physical state	Vapour
Concentration in substance	100 %
Fugacity / Dustiness	High
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	High level containment (99.9% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	no
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3.3 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-long term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure- long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 120 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

3.4 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-short term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure- short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

3.5 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-long term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis/formulation)- long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%

Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 120 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

3.6 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-short term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis/formulation)-short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%).

3.7 Contributing Scenario (4) controlling industrial worker exposure for PROC 4-- Use in batch and other process (synthesis) where opportunity for exposure arises-long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4 Use in batch or other process (synthesis) where opportunity for exposure arises - long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 60 min Open parts: 60 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

3.8 Contributing Scenario (4) controlling industrial worker exposure for PROC 4-- Use in batch and other process (synthesis) where opportunity for exposure arises-short term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4 Use in batch or other process (synthesis) where opportunity for exposure arises - short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)

Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

3.9 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)- long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	Closed process: 360 min Dedicated transfer: 60 min Open parts: 60 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	

Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

3.10 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact)- short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer and open parts: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer and open parts: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer and open parts: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction) Open parts: Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Wear a suitable respiratory protection with adequate effectiveness (90%). Open parts: Wear a suitable respiratory protection with adequate effectiveness (95%).

3.11 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-long term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	90 %

3.12 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-short term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C

Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

3.13 Contributing Scenario (7a) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

3.14 Contributing Scenario (7a) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).
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3.15 Contributing Scenario (7b) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde)-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	No

3.16 Contributing Scenario (7b) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde)-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

3.17 Contributing Scenario (7c) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde)-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7c Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %

Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

3.18 Contributing Scenario (7c) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde)-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 7c Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (1.5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

3.19 Contributing Scenario (8a) controlling industrial worker exposure for PROC 8B- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 – 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)

Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

3.20 Contributing Scenario (8a) controlling industrial worker exposure for PROC 8B- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities (30-60% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

3.21 Contributing Scenario (8b) controlling industrial worker exposure for PROC 8B- Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8b Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

3.22 Contributing Scenario (8b) controlling industrial worker exposure for PROC 8B- Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8b Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (5% formaldehyde) - short term local
Product characteristics	

Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

3.23 Contributing Scenario (8c) controlling industrial worker exposure for PROC 8B- Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8c Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

3.24 Contributing Scenario (8c) controlling industrial worker exposure for PROC 8B- Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 8c Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities (1.5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Medium level of containment (99% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	no
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3.25 Contributing Scenario (9a) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%-60% formaldehyde)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9a Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%60% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

3.26 Contributing Scenario (9a) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%-60% formaldehyde)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9a Transfer of substance or preparations into small containers (dedicated filling line including weighing) (30%60% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Wear a suitable respiratory protection with adequate effectiveness (90%).

3.27 Contributing Scenario (9b) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9b Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium

Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

3.28 Contributing Scenario (9b) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9b Transfer of substance or preparations into small containers (dedicated filling line including weighing) (5% formaldehyde) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial

Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading Fixed capturing hood (90% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

3.29 Contributing Scenario (9c) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9c Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)- long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

3.30 Contributing Scenario (9c) controlling industrial worker exposure for PROC 9- Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 9c Transfer of substance or preparations into small containers (dedicated filling line including weighing) (1.5% formaldehyde)- short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Low level of containment (90% reduction) Submerged loading
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

3.31 Contributing Scenario (10) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-long term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 10 Production of preparations or articles by tableting, compression, extrusion, pelletisation- long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %

Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	90 %

3.32 Contributing Scenario (10) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-short term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 10 Production of preparations or articles by tableting, compression, extrusion, pelletisation- short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

3.33 Contributing Scenario (11) controlling industrial worker exposure for PROC 15- Use of laboratory reagents in small scale laboratories-long term

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 11 Use as a laboratory reagent- long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Fume cupboard
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	no

**3.34 Contributing Scenario (11) controlling industrial worker exposure for PROC 15-
Use of laboratory reagents in small scale laboratories-short term**

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 11 Use as a laboratory reagent- short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Fugacity / Dustiness	Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Fume cupboard
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

4. Exposure Scenario 3: Industrial use of preparations containing formaldehyde up to 60%

Free short title	Industrial use of preparations containing formaldehyde up to 60%
Systematic title based on use descriptor	PROC 1, 2, 8A, 8B

Name(s) of contributing worker scenarios and corresponding PROCs	<p>PROC 1 - Use in closed process, no likelihood of exposure</p> <p>PROC 2 - Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p>
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4.1 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-long term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure- long term systemic and long term local
Product characteristics	
Physical state	Vapour
Concentration in substance	100 %
Fugacity / Dustiness	High
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	High level containment (99.9% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	no

4.2 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-short term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure- short term local
Product characteristics	
Physical state	Vapour
Concentration in substance	100 %
Fugacity / Dustiness	High
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	High level containment (99.9% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

4.3 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-long term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure- long term systemic and long term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	

Duration of activity	Closed process: 360 min Dedicated transfer: 120 min
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	Dedicated transfer: Use of respiratory protection with effectiveness 90%

4.4 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-short term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure- short term local
Product characteristics	
Physical state	Closed process: Vapour Dedicated transfer: Liquid
Concentration in substance	Closed process: 100 % Dedicated transfer: 60%
Fugacity / Dustiness	Closed process: High Dedicated transfer: Medium
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	Closed process and dedicated transfer: Medium level containment (99% reduction) Dedicated transfer: Submerged loading Vapour recovery system (80% reduction)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	Dedicated transfer: Use of respiratory protection with effectiveness 90%

4.5 Contributing Scenario (3) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS3 Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	60 %
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	no

4.6 Contributing Scenario (3) controlling industrial worker exposure for PROC 8A- Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS3 Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities - short term local
Product characteristics	
Physical state	solid
Concentration in substance	60 %
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

4.7 Contributing Scenario (4) controlling industrial worker exposure for PROC 8B- Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS4 Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities - long term systemic and long term local

Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	98 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with intensive management supervision control.)
Respiratory protection	no

4.8 Contributing Scenario (4) controlling industrial worker exposure for PROC 8B- Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS4 Transfer of chemicals (charging/discharging) from/to vessels/large containers at dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	30 - 62 %
Process temperature	60 °C
Fugacity / Dustiness	low

Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5. Exposure Scenario 4: Industrial use of preparations containing formaldehyde up to 5%

Free short title	Industrial use of preparations containing formaldehyde up to 5%
Systematic title based on use descriptor	PROC 1, 2, 3, 4, 5, 6, 7, 8A, 8B, 9, 10, 13, 14, 21, 22C, 23C, 24C, 25C
Name(s) of contributing worker scenarios and corresponding PROCs	<p>PROC 1 - Use in closed process, no likelihood of exposure</p> <p>PROC 2 - Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3 - Use in closed batch process (synthesis or formulation)</p> <p>PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 6 - Calendering operations</p> <p>PROC 7 - Industrial spraying</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 9 - Transfer of chemicals into small containers (dedicated filling line)</p> <p>PROC 10 - Roller application or brushing</p> <p>PROC 13 - Treatment of articles by dipping and pouring</p> <p>PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 21 - Low energy manipulation of substances in materials and/or articles</p> <p>PROC 22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity</p> <p>PROC 23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity</p> <p>PROC 24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity</p>

	PROC 25c - Hot work operations with metals - pt > mp - High Fugacity
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5.1 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-long term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid

Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.2 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-short term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

5.3 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-long term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)

Respiratory protection	no
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5.4 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-short term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

5.5 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-long term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - long term systemic and long term local
Product characteristics	
Physical state	liquid

Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.6 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-short term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.7 Contributing Scenario (4a) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises-long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4a Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local - option 1
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.8 Contributing Scenario (4b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises-short term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4b Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local - option 2
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

5.9 Contributing Scenario (4a-b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises-short term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4 a-b Use in batch and other process (synthesis) where opportunity for exposure arises - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5%
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.10 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)-long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local
Product characteristics	

Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.11 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins

Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

5.12 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-long term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.13 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-short term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

5.14 Contributing Scenario (7a) controlling industrial worker exposure for PROC 7- Industrial spraying (15 mins-1 hr)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a Industrial spraying - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.15 Contributing Scenario (7b) controlling industrial worker exposure for PROC 7- Industrial spraying (>4 hours)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7b Industrial spraying - long term systemic and long term local option 2
Product characteristics	
Physical state	Liquid
Concentration in substance	5 %
Process temperature	20 °C

Fugacity / Dustiness	Low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	Indoors
Ventilation	enhanced (70%)
Domain	Industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

5.16 Contributing Scenario (7a-b) controlling industrial worker exposure for PROC 7- Industrial spraying (15 mins-1 hr)-short term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a-b Industrial spraying - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	

Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.17 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.18 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.19 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
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Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.20 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C

Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

5.21 Contributing Scenario (10) controlling industrial worker exposure for PROC 9- Transfer of chemicals into small containers (dedicated filling line)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	

Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.22 Contributing Scenario (10) controlling industrial worker exposure for PROC 9- Transfer of chemicals into small containers (dedicated filling line)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	no
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5.23 Contributing Scenario (11) controlling industrial worker exposure for PROC 10- Roller application or brushing-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.24 Contributing Scenario (11) controlling industrial worker exposure for PROC 10- Roller application or brushing-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - short term local
Product characteristics	

Physical state	liquid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.25 Contributing Scenario (12) controlling industrial worker exposure for PROC 13- Treatment of articles by dipping and pouring-long term

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.26 Contributing Scenario (12) controlling industrial worker exposure for PROC 13- Treatment of articles by dipping and pouring-short term

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.27 Contributing Scenario (13) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-long term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.28 Contributing Scenario (13) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-short term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

5.29 Contributing Scenario (14) controlling industrial worker exposure for PROC 21- Low energy manipulation of substances in materials and/or articles-long term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid

Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.30 Contributing Scenario (14) controlling industrial worker exposure for PROC 21- Low energy manipulation of substances in materials and/or articles-short term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	

Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.31 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperature long term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.32 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperature short term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.33 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature long term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.34 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature short term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - short term local

Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.35 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles long term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	1 - 4 hours

Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

5.36 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles short term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

5.37 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C- Other hot work operations with metals-long term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 18 Other hot work operations with metals - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

**5.38 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C-
Other hot work operations with metals-short term**

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 18 Other hot work operations with metals - short term local
Product characteristics	
Physical state	solid
Concentration in substance	5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

6. Exposure Scenario 5: Industrial use of preparations containing formaldehyde up to 2.5%

Free short title	Industrial use of preparations containing formaldehyde up to 2.5%
Systematic title based on use descriptor	PROC 1, 2, 3, 4, 5, 6, 7, 8A, 8B, 9, 10, 13, 14, 21, 22C, 23C, 24C, 25C

<p>Name(s) of contributing worker scenarios and corresponding PROCs</p>	<p>PROC 1 - Use in closed process, no likelihood of exposure</p> <p>PROC 2 - Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3 - Use in closed batch process (synthesis or formulation)</p> <p>PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 6 - Calendering operations</p> <p>PROC 7 - Industrial spraying</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 9 - Transfer of chemicals into small containers (dedicated filling line)</p> <p>PROC 10 - Roller application or brushing</p> <p>PROC 13 - Treatment of articles by dipping and pouring</p> <p>PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 21 - Low energy manipulation of substances in materials and/or articles</p> <p>PROC 22c - Potentially closed operations with minerals at elevated temperature - $pt > mp$ - High Fugacity</p> <p>PROC 23c - Open processing and transfer of minerals at elevated temperature - $pt > mp$ - High Fugacity</p> <p>PROC 24c - High (mechanical) energy work-up of substances bound in materials and/or articles - $pt > mp$ - High Fugacity</p> <p>PROC 25c - Hot work operations with metals - $pt > mp$ - High Fugacity</p>
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6.1 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-long term

<p>Name of contributing scenario</p>	<p>1 - Use in closed process, no likelihood of exposure</p>
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Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.2 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-short term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	

Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

6.3 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-long term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.4 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-short term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

6.5 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-long term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.6 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-short term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %

Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.7 Contributing Scenario (4a) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (1-4 hrs)long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4a Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.8 Contributing Scenario (4b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (>4 hrs)-long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4b Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

6.9 Contributing Scenario (4a-b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises-short term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4a-b Use in batch and other process (synthesis) where opportunity for exposure arises - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.10 Contributing Scenario (5) controlling industrial worker exposure for PROC 5-

Mixing or blending in batch processes (multistage and/or significant contact)-long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.11 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - short term local

Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

6.12 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-long term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.13 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-short term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

6.14 Contributing Scenario (7a) controlling industrial worker exposure for PROC 7- Industrial spraying (15 mins–1 hr)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a Industrial spraying - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.15 Contributing Scenario (7b) controlling industrial worker exposure for PROC 7- Industrial spraying (>4 hrs)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7b Industrial spraying - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

6.16 Contributing Scenario (7a-b) controlling industrial worker exposure for PROC 7- Industrial spraying (less than 15 mins)-short term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a-b Industrial spraying - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C

Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.17 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	

Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.18 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	90 %
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6.19 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.20 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

**6.21 Contributing Scenario (10) controlling industrial worker exposure for PROC 9--
Transfer of chemicals into small containers (dedicated filling line)-long term**

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C

Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

**6.22 Contributing Scenario (10) controlling industrial worker exposure for PROC 9--
Transfer of chemicals into small containers (dedicated filling line)-short term**

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

6.23 Contributing Scenario (11) controlling industrial worker exposure for PROC 10- Roller application or brushing-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - long term systemic and long term local
Product characteristics	
Physical state	liquid

Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.24 Contributing Scenario (11) controlling industrial worker exposure for PROC 10- Roller application or brushing-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.25 Contributing Scenario (12) controlling industrial worker exposure for PROC 13- Treatment of articles by dipping and pouring-long term

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.26 Contributing Scenario (12) controlling industrial worker exposure for PROC 13- Treatment of articles by dipping and pouring-short term

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.27 Contributing Scenario (13) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-long term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
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Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.28 Contributing Scenario (13) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-short term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	2.5 %

Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

6.29 Contributing Scenario (14) controlling industrial worker exposure for PROC 21- Low energy manipulation of substances in materials and/or articles-long term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

**6.30 Contributing Scenario (14) controlling industrial worker exposure for PROC 21-
Low energy manipulation of substances in materials and/or articles-short term**

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial

Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.31 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperature long term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.32 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperature short term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.33 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature long term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	

Physical state	solid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.34 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature short term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	

Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

6.35 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles long term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

6.36 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles short term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

**6.37 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C-
Other hot work operations with metals-long term**

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 18 Other hot work operations with metals - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

**6.38 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C-
Other hot work operations with metals-short term**

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
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Scenario subtitle	CS 18 Other hot work operations with metals - short term local
Product characteristics	
Physical state	solid
Concentration in substance	2.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7. Exposure Scenario 6: Industrial use of preparations containing formaldehyde up to 1.5%

Free short title	Industrial use of preparations containing formaldehyde up to 1.5%
Systematic title based on use descriptor	PROC 1, 2, 3, 4, 5, 6, 7, 8A, 8B, 9, 10, 13, 14, 21, 22C, 23C, 24C, 25C

<p>Name(s) of contributing worker scenarios and corresponding PROCs</p>	<p>PROC 1 - Use in closed process, no likelihood of exposure</p> <p>PROC 2 - Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3 - Use in closed batch process (synthesis or formulation)</p> <p>PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 6 - Calendering operations</p> <p>PROC 7 - Industrial spraying</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 9 - Transfer of chemicals into small containers (dedicated filling line)</p> <p>PROC 10 - Roller application or brushing</p> <p>PROC 13 - Treatment of articles by dipping and pouring</p> <p>PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 21 - Low energy manipulation of substances in materials and/or articles</p> <p>PROC 22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity</p> <p>PROC 23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity</p> <p>PROC 24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity</p> <p>PROC 25c - Hot work operations with metals - pt > mp - High Fugacity</p>
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7.1 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-long term

<p>Name of contributing scenario</p>	<p>1 - Use in closed process, no likelihood of exposure</p>
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Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.2 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-short term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	

Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7.3 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-long term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial

Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.4 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-short term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7.5 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-long term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.6 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-short term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - short term local
Product characteristics	

Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.7 Contributing Scenario (4a) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (1-4 hrs)long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4a Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.8 Contributing Scenario (4b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (>4 hrs)-long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4b Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

7.9 Contributing Scenario (4a-b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (less than 15 min)-short term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4a-b Use in batch and other process (synthesis) where opportunity for exposure arises - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.10 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)-long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.11 Contributing Scenario (5) controlling industrial worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
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Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7.12 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-long term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	

Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.13 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-short term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7.14 Contributing Scenario (7a) controlling industrial worker exposure for PROC 7- Industrial spraying (15 mins-1 hr)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a Industrial spraying - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.15 Contributing Scenario (7b) controlling industrial worker exposure for PROC 7- Industrial spraying (>4 hrs)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7b Industrial spraying - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

7.16 Contributing Scenario (7a-b) controlling industrial worker exposure for PROC 7- Industrial spraying (less than 15 mins)-short term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a-b Industrial spraying - short term local
Product characteristics	

Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.17 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.18 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.19 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities- long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)

Respiratory protection	no
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7.20 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7.21 Contributing Scenario (10) controlling industrial worker exposure for PROC 9- Transfer of chemicals into small containers (dedicated filling line)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - long term systemic and long term local

Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.22 Contributing Scenario (10) controlling industrial worker exposure for PROC 9- Transfer of chemicals into small containers (dedicated filling line)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low

Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7.23 Contributing Scenario (11) controlling industrial worker exposure for PROC 10Roller application or brushing-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.24 Contributing Scenario (11) controlling industrial worker exposure for PROC 10Roller application or brushing-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

**7.25 Contributing Scenario (12) controlling industrial worker exposure for PROC 13-
Treatment of articles by dipping and pouring-long term**

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

**7.26 Contributing Scenario (12) controlling industrial worker exposure for PROC 13-
Treatment of articles by dipping and pouring-short term**

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - short term local
Product characteristics	

Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.27 Contributing Scenario (13) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-long term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)

Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.28 Contributing Scenario (13) controlling industrial worker exposure for PROC 14- Production of preparations or articles by tableting, compression, extrusion, pelletisation-short term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

7.29 Contributing Scenario (14) controlling industrial worker exposure for PROC 21- Low energy manipulation of substances in materials and/or articles-long term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)

Respiratory protection	no
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7.30 Contributing Scenario (14) controlling industrial worker exposure for PROC 21- Low energy manipulation of substances in materials and/or articles-short term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.31 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperaturelong term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
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Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.32 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperatureshort term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %

Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.33 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature long term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.34 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature short term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.35 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles long term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.36 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles short term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

7.37 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C- Other hot work operations with metals-long term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 18 Other hot work operations with metals - long term systemic and long term local
Product characteristics	
Physical state	solid

Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

7.38 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C- Other hot work operations with metals-short term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 18 Other hot work operations with metals - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins

Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8. Exposure Scenario 7: Industrial use of preparations containing formaldehyde up to 1%

Free short title	Industrial use of preparations containing formaldehyde up to 1%
Systematic title based on use descriptor	PROC 1, 2, 3, 4, 5, 6, 7, 8A, 8B, 9, 10, 13, 14, 21, 22C, 23C, 24C, 25C

<p>Name(s) of contributing worker scenarios and corresponding PROCs</p>	<p>PROC 1 - Use in closed process, no likelihood of exposure</p> <p>PROC 2 - Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3 - Use in closed batch process (synthesis or formulation)</p> <p>PROC 4 - Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 6 - Calendering operations</p> <p>PROC 7 - Industrial spraying</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 9 - Transfer of chemicals into small containers (dedicated filling line)</p> <p>PROC 10 - Roller application or brushing</p> <p>PROC 13 - Treatment of articles by dipping and pouring</p> <p>PROC 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 21 - Low energy manipulation of substances in materials and/or articles</p> <p>PROC 22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity</p> <p>PROC 23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity</p> <p>PROC 24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity</p> <p>PROC 25c - Hot work operations with metals - pt > mp - High Fugacity</p>
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<p>8.1 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-long term</p>	
<p>Name of contributing scenario</p>	<p>1 - Use in closed process, no likelihood of exposure</p>

Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.2 Contributing Scenario (1) controlling industrial worker exposure for PROC 1- Use in closed process, no likelihood of exposure-short term

Name of contributing scenario	1 - Use in closed process, no likelihood of exposure
Scenario subtitle	CS 1 Use in closed process, no likelihood of exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	

Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8.3 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-long term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial

Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.4 Contributing Scenario (2) controlling industrial worker exposure for PROC 2- Use in closed, continuous process with occasional controlled exposure-short term

Name of contributing scenario	2 - Use in closed, continuous process with occasional controlled exposure
Scenario subtitle	CS 2 Use in closed, continuous process with occasional controlled exposure - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8.5 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-long term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1%
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.6 Contributing Scenario (3) controlling industrial worker exposure for PROC 3- Use in closed batch process (synthesis or formulation)-short term

Name of contributing scenario	3 - Use in closed batch process (synthesis or formulation)
Scenario subtitle	CS 3 Use in closed batch process (synthesis or formulation) - short term local
Product characteristics	
Physical state	liquid

Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.7 Contributing Scenario (4a) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (1-4 hrs)long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4a Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.8 Contributing Scenario (4b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (>4 hrs)-long term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4b Use in batch and other process (synthesis) where opportunity for exposure arises - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

8.9 Contributing Scenario (4a-b) controlling industrial worker exposure for PROC 4- Use in batch and other process (synthesis) where opportunity for exposure arises (less than 15 mins)-short term

Name of contributing scenario	4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Scenario subtitle	CS 4a-b Use in batch and other process (synthesis) where opportunity for exposure arises - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	100 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	90 %
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8.10 Contributing Scenario (5) controlling industrial worker exposure for PROC 5-- Mixing or blending in batch processes (multistage and/or significant contact)- long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.11 Contributing Scenario (5) controlling industrial worker exposure for PROC 5-- Mixing or blending in batch processes (multistage and/or significant contact)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 5 Mixing or blending in batch processes (multistage and/or significant contact) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8.12 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-long term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low

Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.13 Contributing Scenario (6) controlling industrial worker exposure for PROC 6- Calendering operations-short term

Name of contributing scenario	6 - Calendering operations
Scenario subtitle	CS 6 Calendering operations - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8.14 Contributing Scenario (7a) controlling industrial worker exposure for PROC 7- Industrial spraying (15 mins-1 hr)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a Industrial spraying - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.15 Contributing Scenario (7b) controlling industrial worker exposure for PROC 7- Industrial spraying (>4 hrs)-long term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7b Industrial spraying - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

8.16 Contributing Scenario (7a-b) controlling industrial worker exposure for PROC 7- Industrial spraying (less than 15 min)-short term

Name of contributing scenario	7 - Industrial spraying
Scenario subtitle	CS 7a-b Industrial spraying - short term local
Product characteristics	

Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,500 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.17 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week

Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.18 Contributing Scenario (8) controlling industrial worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 8 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.19 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities- long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)

Respiratory protection	no
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8.20 Contributing Scenario (9) controlling industrial worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 9 Transfer of chemicals from/to vessels/ large containers at dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 95 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8.21 Contributing Scenario (10) controlling industrial worker exposure for PROC 9- Transfer of chemicals into small containers (dedicated filling line)-long term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - long term systemic and long term local

Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.22 Contributing Scenario (10) controlling industrial worker exposure for PROC 9- Transfer of chemicals into small containers (dedicated filling line)-short term

Name of contributing scenario	9 - Transfer of chemicals into small containers (dedicated filling line)
Scenario subtitle	CS 10 Transfer of chemicals into small containers (dedicated filling line) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low

Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8.23 Contributing Scenario (11) controlling industrial worker exposure for PROC 10- Roller application or brushing (>4 hrs)-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)

Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.24 Contributing Scenario (11) controlling industrial worker exposure for PROC 10- Roller application or brushing (less than 15 mins)-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 11 Roller application or brushing - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

**8.25 Contributing Scenario (12) controlling industrial worker exposure for PROC 13-
Treatment of articles by dipping and pouring-long term**

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

**8.26 Contributing Scenario (12) controlling industrial worker exposure for PROC 13-
Treatment of articles by dipping and pouring-short term**

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 12 Treatment of articles by dipping and pouring - short term local
Product characteristics	

Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.27 Contributing Scenario (13) controlling industrial worker exposure for PROC 14-- Production of preparations or articles by tableting, compression, extrusion, pelletisation-long term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)

Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.28 Contributing Scenario (13) controlling industrial worker exposure for PROC 14-- Production of preparations or articles by tableting, compression, extrusion, pelletisation-short term

Name of contributing scenario	14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation
Scenario subtitle	CS 13 Production of preparations or articles by tableting, compression, extrusion, pelletisation - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

8.29 Contributing Scenario (14) controlling industrial worker exposure for PROC 21- Low energy manipulation of substances in materials and/or articles-long term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)

Respiratory protection	no
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**8.30 Contributing Scenario (14) controlling industrial worker exposure for PROC 21-
Low energy manipulation of substances in materials and/or articles-short term**

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 14 Low energy manipulation of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.31 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperaturelong term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
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Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.32 Contributing Scenario (15) controlling industrial worker exposure for PROC 22C- Potentially closed processing operations with minerals/metals at elevated temperatureshort term

Name of contributing scenario	22c - Potentially closed operations with minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 15 Potentially closed processing operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %

Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.33 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature long term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.34 Contributing Scenario (16) controlling industrial worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature short term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 16 Open processing and transfer operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial

Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.35 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles long term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - long term systemic and long term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	1 - 4 hours
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.36 Contributing Scenario (17) controlling industrial worker exposure for PROC 24C- High (mechanical) energy work-up of substances bound in materials and/or articles short term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 17 High (mechanical) energy work-up of substances bound in materials and/or articles - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

8.37 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C- Other hot work operations with metals-long term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 18 Other hot work operations with metals - long term systemic and long term local
Product characteristics	

Physical state	solid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

8.38 Contributing Scenario (18) controlling industrial worker exposure for PROC 25C- Other hot work operations with metals-short term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 18 Other hot work operations with metals - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	

Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	enhanced (70%)
Domain	industrial
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

9. Exposure Scenario 8: Professional use of preparations containing formaldehyde up to 1.5%

Free short title	Professional use of preparations containing formaldehyde up to 1.5%
Systematic title based on use descriptor	PROC 5, 8A, 8B, 10, 13, 15, 21, 23C, 24C, 25C

Name(s) of contributing worker scenarios and corresponding PROCs	<p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 10 - Roller application or brushing</p> <p>PROC 13 - Treatment of articles by dipping and pouring</p> <p>PROC 15 - Use of laboratory reagents in small scale laboratories</p> <p>PROC 21 - Low energy manipulation of substances in materials and/or articles</p> <p>PROC 23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity</p> <p>PROC 24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity</p> <p>PROC 25c - Hot work operations with metals - pt > mp - High Fugacity</p>
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9.1 Contributing Scenario (1a) controlling professional worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact) (15 mins1 hr)-long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 1 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

9.2 Contributing Scenario (1b) controlling professional worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact) (>4 hrs)long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 1b Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)

Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.3 Contributing Scenario (1a-b) controlling professional worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact) (less than 15 mins)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 1a-b Mixing or blending in batch processes (multistage and/or significant contact) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	90 %
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9.4 Contributing Scenario (2) controlling professional worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 2 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.5 Contributing Scenario (2) controlling professional worker exposure for PROC 8A-- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 2 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

9.6 Contributing Scenario (3a) controlling professional worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities (15 mins-1 hr)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 3a Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %

Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

9.7 Contributing Scenario (3b) controlling professional worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities (>4 hrs)long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 3b Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)

Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.8 Contributing Scenario (3a-b) controlling professional worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities (less than 15 mins)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 3a-b Transfer of chemicals from/to vessels/ large containers at dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

9.9 Contributing Scenario (4a) controlling professional worker exposure for PROC 10- Roller application or brushing-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4a Roller application or brushing - long term systemic and long term local outdoors
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	outdoors (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.10 Contributing Scenario (4b) controlling professional worker exposure for PROC

10- Roller application or brushing-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4b Roller application or brushing- long term systemic and long term local indoors
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.11 Contributing Scenario (4a) controlling professional worker exposure for PROC

10- Roller application or brushing (less than 15 mins) outdoors-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4a Roller application or brushing - short term local outdoors
Product characteristics	

Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	outdoors (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

9.12 Contributing Scenario (4b) controlling professional worker exposure for PROC

10- Roller application or brushing (less than 15 mins) indoors-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4b Roller application or brushing - short term local indoors
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

9.13 Contributing Scenario (5) controlling professional worker exposure for PROC 13- Treatment of articles by dipping and pouring-long term

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 5 Treatment of articles by dipping and pouring - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

9.14 Contributing Scenario (5) controlling professional worker exposure for PROC 13- Treatment of articles by dipping and pouring-short term

Name of contributing scenario	13 - Treatment of articles by dipping and pouring
Scenario subtitle	CS 5 Treatment of articles by dipping and pouring - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

9.15 Contributing Scenario (6a) controlling professional worker exposure for PROC 15- Use of laboratory reagents in small scale laboratories (15 mins-1 hr)-long term

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
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Scenario subtitle	CS 6a Use of laboratory reagents in small scale laboratories - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

9.16 Contributing Scenario (6b) controlling professional worker exposure for PROC

15- Use of laboratory reagents in small scale laboratories (>4 hrs)-long term

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 6b Use of laboratory reagents in small scale laboratories - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C

Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.17 Contributing Scenario (6a-b) controlling professional worker exposure for PROC

15- Use of laboratory reagents in small scale laboratories (less than 15 mins)-short term

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 6a-b Use of laboratory reagents in small scale laboratories - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

9.18 Contributing Scenario (7a) controlling professional worker exposure for PROC 21- Low energy manipulation of substances bound in materials and/or articles (less than 15 mins)-long term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 7a Low energy manipulation of substances bound in materials and/or articles - long term systemic and long term local option 1
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)

Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

9.19 Contributing Scenario (7b) controlling professional worker exposure for PROC 21- Low energy manipulation of substances bound in materials and/or articles (>4 hrs)long term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 7b Low energy manipulation of substances bound in materials and/or articles - long term systemic and long term local option 2
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.20 Contributing Scenario (7a-b) controlling professional worker exposure for PROC 21- Low energy manipulation of substances bound in materials and/or articles-short term

Name of contributing scenario	21 - Low energy manipulation of substances in materials and/or articles
Scenario subtitle	CS 7a-b Low energy manipulation of substances bound in materials and/or articles- short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

9.21 Contributing Scenario (8a) controlling professional worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature-long term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 8a Open processing and transfer operations with minerals/metals at elevated temperature - long term systemic and long term local option 1
Product characteristics	

Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

9.22 Contributing Scenario (8b) controlling professional worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature-long term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 8b Open processing and transfer operations with minerals/metals at elevated temperature - long term systemic and long term local option 2
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	

Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.23 Contributing Scenario (8a-b) controlling professional worker exposure for PROC 23C- Open processing and transfer operations with minerals/metals at elevated temperature-short term

Name of contributing scenario	23c - Open processing and transfer of minerals at elevated temperature - pt > mp - High Fugacity
Scenario subtitle	CS 8a-b Open processing and transfer operations with minerals/metals at elevated temperature - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors

Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

9.24 Contributing Scenario (9a) controlling professional worker exposure for PROC 24C- Open processing and transfer operations with minerals/metals at elevated temperature (less than 15 mins)-long term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 9a Open processing and transfer operations with minerals/metals at elevated temperature- long term systemic and long term local option 1
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 75 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)

Respiratory protection	no
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9.25 Contributing Scenario (9b) controlling professional worker exposure for PROC 24C- Open processing and transfer operations with minerals/metals at elevated temperature (>4 hrs)-long term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 9b Open processing and transfer operations with minerals/metals at elevated temperature- long term systemic and long term local option 2
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 75 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.26 Contributing Scenario (9a-b) controlling professional worker exposure for PROC 24C- Open processing and transfer operations with minerals/metals at elevated temperature-short term

Name of contributing scenario	24c - High (mechanical) energy work-up of substances bound in materials and/or articles - pt > mp - High Fugacity
Scenario subtitle	CS 9a-b Open processing and transfer operations with minerals/metals at elevated temperature- short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	20 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 75 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

9.27 Contributing Scenario (10a) controlling professional worker exposure for PROC
25C- Other hot work operations with metals-long term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 10 Other hot work operations with metals - long term systemic and long term local option 1
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C

Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

9.28 Contributing Scenario (10b) controlling professional worker exposure for PROC

25C- Other hot work operations with metals-long term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 10b Other hot work operations with metals - long term systemic and long term local option 2
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²

Other given operational conditions affecting workers exposure	
Location	indoors
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

9.29 Contributing Scenario (10a-b) controlling professional worker exposure for PROC

25C- Other hot work operations with metals-short term

Name of contributing scenario	25c - Hot work operations with metals - pt > mp - High Fugacity
Scenario subtitle	CS 10a-b Other hot work operations with metals - short term local
Product characteristics	
Physical state	solid
Concentration in substance	1.5 %
Process temperature	60 °C
Fugacity / Dustiness	high
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	1,980 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	

Respiratory protection	90 %
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10. Exposure Scenario 9: Professional use of preparations containing formaldehyde up to 1%

Free short title	Professional use of preparations containing formaldehyde up to 1%
Systematic title based on use descriptor	PROC 5, 8A, 8B, 10, 15
Name(s) of contributing worker scenarios and corresponding PROCs	<p>PROC 5 - Mixing or blending in batch processes (multistage and/or significant contact)</p> <p>PROC 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities</p> <p>PROC 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities</p> <p>PROC 10 - Roller application or brushing</p> <p>PROC 15 - Use of laboratory reagents in small scale laboratories</p>

10.1 Contributing Scenario (1a) controlling professional worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact) (15 mins1 hr)-long term	
Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 1 Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	

Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

10.2 Contributing Scenario (1b) controlling professional worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact) (>4 hrs)long term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 1b Mixing or blending in batch processes (multistage and/or significant contact) - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	

Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

10.3 Contributing Scenario (1a-b) controlling professional worker exposure for PROC 5- Mixing or blending in batch processes (multistage and/or significant contact) (less than 15 mins)-short term

Name of contributing scenario	5 - Mixing or blending in batch processes (multistage and/or significant contact)
Scenario subtitle	CS 1a-b Mixing or blending in batch processes (multistage and/or significant contact) - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

10.4 Contributing Scenario (2) controlling professional worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-long term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
Scenario subtitle	CS 2 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - long term systemic and long term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

10.5 Contributing Scenario (2) controlling professional worker exposure for PROC 8A- Transfer of chemicals from/to vessels/ large containers at non dedicated facilities-short term

Name of contributing scenario	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities
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Scenario subtitle	CS 2 Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	90 %

10.6 Contributing Scenario (3a) controlling professional worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities (15 mins-1 hr)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 3a Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low

Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

10.7 Contributing Scenario (3b) controlling professional worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities (>4 hrs)-long term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 3b Transfer of chemicals from/to vessels/ large containers at dedicated facilities - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	

Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

10.8 Contributing Scenario (3a-b) controlling professional worker exposure for PROC 8B- Transfer of chemicals from/to vessels/ large containers at dedicated facilities (less than 15 mins)-short term

Name of contributing scenario	8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities
Scenario subtitle	CS 3a-b Transfer of chemicals from/to vessels/ large containers at dedicated facilities - short term local
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional

Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 90 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no

10.9 Contributing Scenario (4a) controlling professional worker exposure for PROC
10- Roller application or brushing (15 mins-1 hr) outdoors-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4a Roller application or brushing - long term systemic and long term local outdoors
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	outdoors (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

10.10 Contributing Scenario (4b) controlling professional worker exposure for PROC
10- Roller application or brushing (15 mins-1 hr) indoors-long term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4b Roller application or brushing- long term systemic and long term local indoors
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

10.11 Contributing Scenario (4a) controlling professional worker exposure for PROC 10- Roller application or brushing (less than 15 mins)-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4a Roller application or brushing - short term local outdoors
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C

Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	outdoors (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

10.12 Contributing Scenario (4b) controlling professional worker exposure for PROC

10- Roller application or brushing (less than 15 mins) indoors-short term

Name of contributing scenario	10 - Roller application or brushing
Scenario subtitle	CS 4b Roller application or brushing - short term local indoors
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	20 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	960 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)

Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	no
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	95 %

10.13 Contributing Scenario (5a) controlling professional worker exposure for PROC
15- Use of laboratory reagents in small scale laboratories (15 mins–1 hr)-long term

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 5a Use of laboratory reagents in small scale laboratories - long term systemic and long term local option 1
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	15 mins to 1 hour
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	no

10.14 Contributing Scenario (5b) controlling professional worker exposure for PROC**15- Use of laboratory reagents in small scale laboratories (>4 hrs)-long term**

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 5b Use of laboratory reagents in small scale laboratories - long term systemic and long term local option 2
Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	>4 hours (default)
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Protective gloves	95 %, burst-time: >4 hours (default) (justification: Wear chemically resistant gloves in combination with specific activity training)
Respiratory protection	90 %

10.15 Contributing Scenario (5a-b) controlling professional worker exposure for PROC**15- Use of laboratory reagents in small scale laboratories (less than 15 mins)-short term**

Name of contributing scenario	15 - Use of laboratory reagents in small scale laboratories
Scenario subtitle	CS 5a-b Use of laboratory reagents in small scale laboratories - short term local

Product characteristics	
Physical state	liquid
Concentration in substance	1 %
Process temperature	60 °C
Fugacity / Dustiness	low
Frequency and duration of use	
Duration of activity	less than 15 mins
Frequency of use	5 days / week
Human factors not influenced by risk management	
Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	
Location	indoors
Ventilation	good (30%)
Domain	professional
Technical conditions and measures to control dispersion and exposure	
Local exhaust ventilation	yes (inhalation 80 %)
Conditions and measures related to personal protection, hygiene and health evaluation	
Respiratory protection	no