Mapping of the Conditions of use (input parameters) of the different tools for workers assessment

Final version 1. December 2020

Mapping of the Conditions of use (input parameters) of the different tools for workers assessment

Contents

1. Introduction

Workers exposure estimation tools are very largely used under REACH to support chemical safety assessment. The input parameters for the different workers exposure tools are largely addressing the same core exposure determinants (called "conditions of use": CoU), but expressing them in different words and granularity. Under REACH, this creates significant challenges for an efficient communication and processing of information on conditions of use up and down the supply chain.

When Downstream Users sectors are communicating the conditions of use of their mixtures to the registrants (via SWED (Sector Specific Workers Exposure Determinants) in the so called use maps[1]) they usually do not know which exposure estimation tools registrants may use, as this may depend on the hazard profile of each substance to be contained in the mixture.

Under the Exchange Network on Exposure Scenarios (ENES)[2]action 3.2, ECHA and SECO[3] undertook the task to map the conditions of use used as input parameters for the most used workers exposure assessment tools, with the aim to derive one set of harmonised conditions of uses supporting assessment with any of the tools. This work has been carried out to cover the following tools, ECETOC TRA v3[4], ART v.1.5[5], Stoffenmanager v.8[6], Mease 2[7] and EMKG-Expo tool-v 2.0[8]together with the tool owners.

The mapping exercise includes for each condition of use identified, a list of *harmonised values*. The *harmonised values* are mapped to the equivalent input parameters for each tool. How to use this mapping is explained in section 1.2 of this document. Each *harmonised value* is also associated with one phrase for *harmonised communication*. Indeed the current practice is that Exposure Scenarios for communication (to be annexed to the Safety Data Sheet, SDS) are to be communicated using standard phrases so that they can be translated. ESCom[9] is the referenced phrase catalogue under ENES and as a consequence ultimately it is expected that all phrases referred to will have to fbe part of the ESCom phrase catalogue. In the current document a colour code has been used to differentiate phrases already in the ESCom catalogue from those which are not yet included in the catalogue:

- **Green *harmonised communication* phrases:** existing ESCom
- **Black *harmonised communication* phrases**: phrase proposal made within this project.

[1] See https://echa.europa.eu/csr-es-roadmap/use-maps/concept

[2] https://echa.europa.eu/about-us/exchange-network-on-exposure-scenarios

[3] State Secretariat for Economic Affairs (SECO) of Switzerland

[4] http://www.ecetoc.org/tools/targeted-risk-assessment-tra/

[5] http://www.ecetoc.org/tools/targeted-risk-assessment-tra/

[6] https://stoffenmanager.com/

[7] https://www.ebrc.de/tools/downloads.php

[8] https://www.baua.de/EN/Service/Publications/Guidance/EMKG-Expo-Tool-2.html

[9] https://cefic.org/guidance/reach-implementation/escom-package-guidance/

The SWED template[10] and Chesar 3.6[11] will be updated based on the set of harmonised conditions of use and associated values presented in this document. This way:

- sectors will be able to provide to the assessors information on their typical conditions of use in a way that registrant's assessors can map to any of the exposure estimation tool they would choose to use.
- Furthermore, the way the conditions of use will be expressed in the Exposure Scenarios for communication will remain the same, independently on the tools used for the assessment. Formulators will be therefore able to more easily process the information received in the ESs from several substances in a mixture, as the conditions of use will be systematically expressed in the same way.

1.1. Set of conditions of use (CoU)

The work carried out during 2018, focused on mapping the CoU addressed in the following tools: ECETOC TRA v3, ART v.1.5, Stoffenmanager v.8, Mease 2 and EMKG-Expo tool-v 2.0. Based on this first mapping, the CoU could be classified in three different types:

Core CoU: Conditions of use that already existed in the previous SWED template and are needed to run an assessment with most of the tools. . They are all needed to run the ECETOC TRA but further granularity in the "values" may be required in some cases to make use of increased differentiation available within the other tools. The core CoU are:

- Percentage (w/w) of substance in mixture/article
- Physical form of the used product
- Duration of activity
- Occupational health and safety management system
- Room ventilation
- Local exhaust ventilation
- Respiratory protection
- Dermal protection
- Face and Eye protection
- Place of use
- Operating temperature

Additional generic CoU: Conditions of use that are not relevant for ECETOC TRA, but are relevant to more than one of the other tools. This means that availability of such information enables refinement of exposure estimates in some tools but that "default settings" are assumed in other tools. These additional CoUs are to be added case by case in the SWED developed by the DU sectors when they are identified as being particularly relevant by the sector. Those additional CoU are:

- Containment
- Suppression techniques for solid product
- Personal enclosure
- Distance of the workers to the source

[10] https://echa.europa.eu/csr-es-roadmap/use-maps/templates-and-submission

[11] https://chesar.echa.europa.eu/

Additional sets of CoUs, only relevant for ART or MEASE 2: These additional conditions can apply to all activities (generic) or may apply only to specific activities, i.e. be associated to an activity class in ART or a PROC in MEASE.

1.2. Mapping tables

The following sections contain "mapping tables" (across the different exposure estimation tools) for the core and the additional generic CoU. The mapping tables include information that is relevant to both SWED developers and for assessors. Note that such mapping may also be used by readers of assessment (authorities reading CSRs, DUs reading ESs) for understanding how the assessment has been carried out.

Each condition of use is presented in one table.

- The first column *harmonised value* shows all the values which could be selected for the condition of use (e.g. in a SWED to describe the conditions of use applied in a sector or by an assessor e.g. in Chesar).

- The second column *harmonised communication* includes the associated phrases for communication in an ES. independently of the tool used for the assessment. This information may help selecting the right harmonised value.

- The other columns identify for each tool which value for the condition of use is to be used when carrying out an exposure assessment with such tool on the basis of a SWED for example.

It is to be used by the assessor to "translate" the SWED value to an input for the modelling tool(s) he would decide to use. The various columns indicate which 'input value' should be used in the exposure assessment tool when a given *'harmonised value'* is selected for the condition of use.

In Chesar, the mapping to the ECETOC TRA will remain automatic (no need for the assessor to make the 'translation' himself). Automated mapping may also be implemented in the future in other tools or in Chesar if the other tools are connected to Chesar.

The mapping is provided for each harmonised value to each tool, even if such differentiated value does not exist in the tool. The input to the tool in such case is the closest value available, leading to a more conservative assessment. For example for the General ventilation, if "specialised room ventilation with more than 30 ACH" is identified in the SWED, exposure estimation with the TRA will be done using "Enhanced ventilation (more than 5 ACH)" as this is the closest input possible in TRA that will not lead to under-estimation. The phrases used for communication will however be '*Provide* specialised *room ventilation (at least 30 air changes per hour)'*. It is acknowledged that in those cases the communicated measures are more stringent measures than those being assumed in the exposure estimation. Such situations are visible in Blue in the mapping table.

For a few conditions of use (e.g. general ventilation), some harmonised values may be mapped to more than one possible value for the condition of use for a specific tool. In such cases, there are two possible situations:

1. All the values (in white cells) mapped to the *harmonised value* will result in the same exposure estimate (e.g. the various values for ART for the CoU *LEV* lead to

the same exposure estimate. Similarly the various values for ART and Stoffenmanager for the CoU *respiratory protection* lead to the same exposure estimate). In those cases, the assessor can freely use any of the mapped values to perform the exposure assessment.

2. The values (in the cells shaded in grey) mapped to the *harmonised value* will results in a (slightly) different exposure estimate and should therefore not be used by assessor when estimating exposure based on a set of CoU[12]. Those values are nevertheless provided in case an assessor needs to report an assessment already existing (that uses any of those values) in Chesar.

[12] When doing the mapping it was concluded that the granularity provided for those conditions of use in those tools where too high for more generic description of conditions of use

2. Core Conditions of use

2.1. Percentage (w/w) of substance in mixture/article

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Numerical value between 0-100%	Covers concentration up to ≤ %	Numerical value from 0,01 to 1 (mole or mass fraction) Or % from picklist	Numerical value between 0-100%	> 25 %	> 25 %	n/a
				5-25%	5-25%	
				1-5%	1-5%	
				<1%	<1%	

2.2. Physical form of the used product

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Gas	Gaseous	n/a	n/a	n/a	Gaseous	n/a
Liquefied gas	Liquified gas	n/a	n/a	n/a	n/a	n/a
Liquid, including paste/slurry/ suspension	Liquid	For liquid substance: Liquids	For liquid substance: Liquids	For liquid substance: Liquid	Liquid, suspension, paste	Liquids
		For solid substance: Powders dissolved in a liquid or incorporated in a liquid matrix	For solid substance: Solid and Liquid	For solid substance: Solid (high dustiness) [1]		

Harmonised value	**Harmonised communication**	**ART**	**Stoffenmanager® 8.0**	**ECETOC TRA**	**MEASE 2**	**EMKG EXPO TOOL**
		Paste, slurry or clearly (soaked) wet powder (not containing volatile liquid components)				
Molten metal	Molten inorganic substances	n/a	n/a	n/a	Molten	n/a
Solid object	Massive object	Solid objects	Objects	Solid low dustiness *Only relevant in the TRA for the abrasion of solid objects* (with PROC 21 or 24)	Massive object	n/a
Solid (material with no or very low dustiness)	Solid; Very low dustiness: Handling the product does not result in dust emission without intentional breakage of products. For example, granules covered with a layer of wax.	Firm granules, flakes or pellets	Solid Granules/grains/flakes	Solid, low dustiness	Massive object	Low
Solid (material with low dustiness)	Solid; Low dustiness: Handling the product does not result in a visible dust cloud. For example, animal pellets.	Granules, flakes or pellets	Granules/grains/flakes	Solid, low dustiness	Solid, low dusty	Low
Solid (material with medium dustiness)	Solid; Medium dustiness: Handling the product in its dry form results in a dust cloud that settles quickly due to gravity. For	Coarse dust	Coarse dust	Solid, medium dustiness	Solid, medium dusty	Medium

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
	example, sand.					
Solid (material with high dustiness)	Solid; High dustiness: Handling the product in its dry form results in a dust cloud that is clearly visible for some time. For example, talcum powder.	Fine dust	Fine dust	Solid, high dustiness	Solid, high dusty	High
Solid (material with very high dustiness	Solid; Very high dustiness: Handling the product in its dry form results in a dust cloud that remains airborne for a long time.	Extremely fine and light powder	Extremely fine dust	Solid, high dustiness	Solid, high dusty	High

[1] Note that in ECETOC TRA stand-alone version, the *physical form* reported is the physical form of the substance at operating temperature and not the physical form of the product. Chesar takes into account the physical form of the substance at operating temperature (based on the melting point for solid at 20C) and the physical form of the used product in the algorithm to estimate exposure (e.g. for solid substance in a liquid product, the "high dustiness" volatility band set in the TRA is used as input for the exposure estimates automatically, as described in ECETOC manual[13])

2.3. Duration of activity

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Numerical value between 0 and 24 h	Covers use up to ≤… h/day	Numerical value (in minutes)	Numerical value (in minutes)	>4 hours	>240 min	> 15 min
				1 - 4 hours	60-240 min	
				15 mins to 1 hour	15-60 min	< 15 min

[13] http://www.ecetoc.org/publication/tr-114-ecetoc-tra-version-3-background-and-rationale-for-the-improvements/

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
				less than 15 mins	less than 15 mins	

2.4. Occupational health and safety management system

Harmonised Value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Advanced	Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision; Ensure regular inspection, cleaning and maintenance of equipment and machines; Clear spills immediately and dispose of waste safely; Ensure daily cleaning of the equipment	Effective housekeeping practices in place (e.g. daily cleaning) and preventive maintenance of machinery	Choose both: Cleaning (Daily) and Maintenance (regular)	Advanced OHS system (industrial setting)	Cleaning activities: Immediate removal of spills; Standard or advanced hygiene practice (to be selected for transfer, mixing and spraying operations)	Gives advice via control guidance sheets that activities are undertaken with appropriate equipment by trained personal operating under supervision; regular maintenance of machinery; daily cleaning; immediate removal of spills;
Basic		Default: no	Both no for cleaning and maintenance	Basic OHS system (professional setting)	Cleaning activities: Regular cleaning of workplace; Basic occupational hygiene practice (to be selected for transfer, mixing and spraying operations)	

2.5. Room ventilation

Harmonised Value	Harmonised communication	ART	Stoffenmanager ® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Basic (up to 3 ACH)		No restriction in general ventilation characteristics	No general ventilation	Basic General ventilation	Open ventilation	n/a
		Only good natural ventilation				
		0.3 ACH			Basic Mechanical ventilation of at least 1 ACh or outdoor use	
		1 ACH				
Good (3 to 5 ACH)	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).	3 ACH	General ventilation (mechanical)[2]	Good general ventilation (natural or mechanical)	Mechanical ventilation of at least 3 ACH	General ventilation[1]
		Mechanical ventilation giving at least 1 ACH	General ventilation (open windows and doors)			
Enhanced (5 to 10 ACH)	Provide a good standard of controlled ventilation (5 to 10 air changes per hour).	10 ACH	General ventilation (mechanical)	Enhanced general ventilation	Mechanical ventilation of at least 3 ACh	General ventilation
Specialised (10 to 30 ACH)	Provide specialised room ventilation (at least 10 air changes per hour).	Specialised room ventilation with more than 10 ACH	General ventilation (mechanical)	Enhanced general ventilation	Enhanced mechanical ventilation of at least 10 ACH	General ventilation
Specialised (more than 30	Provide specialised room ventilation (at least 30 air	30 ACH	General ventilation	Enhanced general	Enhanced mechanical ventilation of at least	General ventilation

Harmonised Value	Harmonised communication	ART	Stoffenmanager ® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
ACH)	changes per hour).		(mechanical)	ventilation	10 ACH	
Down-flow spray room	Provide down-flow spray room	Down-flow spray room	Spray room	Enhanced general ventilation	Enhanced mechanical ventilation of at least 10 ACH	General ventilation

1 For different tasks (PROCs) the EMKG-EXPO-TOOL suggests different control guidance sheets on general ventilation; Series G100

2 Stoffenmanager® multipliers for general ventilation (open windows and doors) and general ventilation (mechanical) are the same

2.6. Local exhaust ventilation

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
No		No LEV	No LEV	No LEV		No Engineering controls
Yes, basic LEV (assumed effectiveness 50-80%) E.g. Canopy hood, movable capturing hood and other multi-purpose LEVs	Provide basic LEV such as canopy hood, movable capturing hood or other multipurpose LEV. Ensure effectiveness is at least 50%.	Receiving hoods - Canopy hood Capturing hoods- Movable capturing hoods Other LEV systems	LEV (effectiveness 70%)[3]	(no) LEV[2]	General purpose LEV: • Fixed LEV • Mobile LEV • Integrated LEV • Rim ventilation • On-tool extraction	No (Not supported by the EMKG-EXPO-TOOL which requires an LEV efficacy of 90%)

Yes, specifically designed receiving hood (assumed effectiveness ≥80-90%) other specifically designed LEVs	Provide specifically designed and maintained LEV (receiving hood type). Ensure effectiveness is at least 80%.	Receiving hoods - Other receiving hood	LEV (effectiveness 70%)[3]	(no) LEV[2]	Specifically designed: • Fixed LEV • Mobile LEV • Integrated LEV • Rim ventilation • On tool extraction	No (Not supported by the EMKG-EXPO-TOOL which requires an LEV efficacy of 90%)
Yes, specifically designed fixed capturing hood, on tool extraction or enclosing hood (assumed effectiveness ≥90-95%)	Provide specifically designed and maintained LEV (fixed capturing hood type, on-tool extraction or enclosing hood type). Ensure effectiveness is at least 90%.	Capturing hoods- Fix capturing hoods Capturing hoods- On tool extraction Enclosing hoods- Other enclosing hoods Enclosing hoods- horizontal /downward laminar flow booth	LEV(effectiveness 70%)[3]		Specifically designed and maintained: • Fixed LEV • Mobile LEV • Rim ventilation • On tool extraction	Engineering controls[1]
Yes, enclosing hood with very high effectiveness such as fume cupboard or spray booth (assumed effectiveness ≥95%)	Provide enclosing hood with very high effectiveness (such as fume cupboard) or effective ventilation by spray booth according to EN 16985. Ensure effectiveness is at least 95%.	Enclosing hoods- Fume cupboard	Containment of the source with local exhaust ventilation (effectiveness 97%)	LEV [2]	Specifically designed and maintained: • Fixed LEV • Mobile LEV • Rim ventilation • On tool extraction	Engineering controls

1 For different tasks (PROCs) the EMKG-EXPO-TOOL suggests different control guidance sheets on LEV, Series G200

2 The effectiveness for the LEV is set by the TRA between 75 and 95% depending on PROC, industrial/professional setting and solid/liquid. The rules for setting the LEV in the TRA are described in the table below

2.6.1. Mapping the harmonised input for the LEV to ECETOC TRA LEV default value

The following table shows the mapping from the LEV harmonised inputs to the "value for TRA LEV". The TRA LEV **effectiveness depends on the PROC, the setting "Professional" and "Industrial" and in the case of PROC 8b on substance properties** (volatile or non-volatile). The approach taken is that when the effectiveness from the harmonised input is lower than the effectiveness assigned in the TRA, the LEV would need to be set to "no" in TRA to avoid underestimation of the exposure. Such situation is flagged in blue colour in the table, as the exposure estimate is in that case possibly over estimated. When the effectiveness from the harmonised input is higher than the effectiveness assigned in the TRA, the LEV can be set to "yes" and this is also flagged in blue as the exposure may be overestimated.

Harmonised value	**TRA Professional**			**TRA industrial**		
	All PROCs except: 8b (for volatiles i.e. liquid) and 24 **Eff (80%)**	**PROC 24** **Eff (75%)**	**PROC 8b (for volatiles i.e. liquid)** **Eff (90%)**	**All PROCs except: 7, 8b and 24** **Eff (90%)**	**PROC 24** **Eff (80%)**	**PROCs 7 and 8b** **Eff (95%)**
No	No LEV	No LEV	No LEV	No LEV	No LEV	No LEV
Yes, basic LEV (assumed effectiveness 50-80%) E.g. Canopy hood, movable capturing hood and other multi-purpose LEVs	No LEV	LEV	No LEV	No LEV	No LEV	No LEV
Yes, specifically designed receiving hood (assumed effectiveness >80-90%) other specifically designed LEVs	LEV	LEV	No LEV	No LEV	LEV	No LEV
Yes, specifically designed fixed capturing hood, on tool extraction or enclosing hood (assumed effectiveness >90-95%)	LEV	LEV	LEV	LEV	LEV	No LEV
Yes, enclosing hood with very high effectiveness such as fume cupboard or spray booth (assumed effectiveness ≥95%)	LEV	LEV	LEV	LEV	LEV	LEV

2.7. Respiratory protection

1 RPE is not integrated in the ART tool. However, the reduction factor provided by the RPE can be applied to exposure estimate provided by the tool to account for the use of RPE.

Harmonised value	**Harmonised communication**	**ART[1]**	**Stoffenmanager®8.0**	**ECETOC TRA**	**MEASE 2**	**EMKG EXPO TOOL**
No				No		
Yes (APF ≥4)	Wear a respirator which reduces the air impurities by at least a factor of 4 (APF ≥4). For further specification, refer to section 8 of the SDS	Filtering half mask FFP1	Disposable half mask respirator (FFP1)	No	APF 4	n/a
		Filtering half masks without inhalation valves FFP1	Reusable half mask respirator + P1 filter			
		Half or quarter mask and filter P1	Full face mask respirator (P1)			
		Full face masks and filter P1				
		Valved filtering half masks FFGasXP1				
Yes (APF ≥5)	Wear a respirator which reduces the air impurities by at least a factor of 5 (APF ≥5). For further specification, refer to section 8 of the SDS	Filtering half mask FFP2		No	APF 5	n/a
Yes (APF ≥10)	Wear a respirator which reduces the air impurities by at least a factor of 10 (APF ≥10). For further specification, refer to section 8 of the SDS	Filtering half masks without inhalation valves FFP2, FFgasX and FFGasXP3	Disposable half mask respirator (FFP2)	90%	APF 10	n/a
		Half or quarter mask and filter P2, Gas or GasXP3	Reusable half mask respirator + P2 filter			
		Half or quarter mask and filter Gas	Reusable half mask respirator - gas/vapour filter (Gas, FFgas, FMgas)			
		Half or quarter mask and filter GasXP3	Full face mask respirator (P2)			

		Valved filtering half masks FFGasX, FFGasXP2 and FFGasXP3	Powered respirator with mask (TM1)			
		FFGasXP3	Powered respirator with hood/helmet (TH1)			
		Full face masks and filter P2	Fresh air hose (FAH) breathing apparatus - assisted FAH with half mask			
		Powered filtering devices incorporating helmets or hoods TH1	Constant flow airline breathing apparatus with a mask - light duty (1A)			
		Power assisted filtering devices incorporating full, half or quarter masks TM1	Constant flow airline breathing apparatus with a mask (1B)			
			Constant flow airline breathing apparatus with hood/helmet - light duty (1A)			
			Constant flow airline breathing apparatus with hood/helmet (1B)			
			Constant flow airline breathing apparatus with full suit (1A or 1B)			
Yes (APF ≥20)	Wear a respirator which reduces the air impurities by at least a factor of 20 (APF ≥20). For further specification, refer to section 8 of the SDS	Filtering half mask FFP3	Disposable half mask respirator (FFP3)	95%	APF 20	n/a
		Filtering half masks without inhalation valves FFP3	Reusable half mask respirator + P3 filter			
		Half or quarter mask and filter P3	Full face mask respirator - gas/vapour filter (Gas)			
		Full face masks and filter Gas	Powered respirator with mask (TM2)			
		GasXP3	Powered respirator with hood/helmet (TH2)			
		TM3 (half face) particle, gas or combined filters	Constant flow airline breathing apparatus with a mask - light duty (2A)			
		Powered filtering devices incorporating helmets or hoods	Constant flow airline breathing apparatus with a mask - light			

		TH2	duty (3A)			
		Powered filtering devices incorporating helmets or hoods TM2 (all types) and TM3 (half face) particle,	Constant flow airline breathing apparatus with a mask (2B)			
		Full face masks and filter P3	Constant flow airline breathing apparatus with a mask (3B)			
		TM 3 (full face) gas or combined filters	Constant flow airline breathing apparatus with hood/helmet - light duty (2A)			
			Constant flow airline breathing apparatus with hood/helmet (2B)			
			Constant flow airline breathing apparatus with hood/helmet (3B)			
			Constant flow airline breathing apparatus with full suit (2A or 2B)			
			Constant flow airline breathing apparatus with full suit (3A or 3B)			
Yes (APF ≥40)	Wear a respirator which reduces the air impurities by at least a factor of 40 (APF ≥40). For further specification, refer to section 8 of the SDS		Full face mask respirator (P3)	95%	APF 40	n/a
			Powered respirator with mask (TM3)			
			Powered respirator with hood/helmet (TH3)			
			Fresh air hose (FAH) breathing apparatus - unassisted FAH with full face mask			
			Fresh air hose (FAH) breathing apparatus - assisted/powered FAH with full face mask			
			Fresh air hose (FAH) breathing apparatus - powered FAH with hood			
			Constant flow airline breathing apparatus with a mask - light			

			duty (4A, full face mask only) Constant flow airline breathing apparatus with a mask (4B , full face mask only) Constant flow airline breathing apparatus with hood/helmet - light duty (3A) Constant flow airline breathing apparatus with hood/helmet - light duty (4A) Constant flow airline breathing apparatus with hood/helmet (4B) Constant flow airline breathing apparatus with full suit (4B)			
Yes (APF ≥200)	Wear a respirator which reduces the air impurities by at least a factor of 200 (APF ≥200). For further specification, refer to section 8 of the SDS	n/a	Constant flow airline breathing apparatus with full suit (Classes 1, 2, 3, 4 and 5) Constant flow airline breathing apparatus with full suit (Class 1C)	95%	APF 40	n/a
Yes (APF ≥2000)	Wear a respirator which reduces the air impurities by at least a factor of 2000 (APF ≥2000). For further specification, refer to section 8 of the SDS	n/a	Demand valve breathing apparatus - positive pressure demand airline - full face mask Demand valve breathing apparatus - positive pressure self-contained demand - full face mask	95%	APF 40	n/a

2.8. Dermal protection

ART and Stoffenmanager provide exposure estimates for the inhalation route only thus the CoU of use is not relevant for them

Harmonised value	**Harmonised communication**	**ART**	**Stoffenmanager ® 8.0**	**ECETOC TRA**	**MEASE 2**	**EMKG EXPO TOOL**
No						
Yes (effectiveness ≥ 80%)	Wear suitable gloves tested to EN374; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands; For further specification, refer to section 8 of the SDS.	n/a	n/a	Chemical resistant gloves and other appropriate dermal protection	n/a	n/a
Chemical resistant dermal protection with basic employee training. Effectiveness ≥ 90%	Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands; For further specification, refer to section 8 of the SDS.	n/a	n/a	Chemically resistant gloves and other appropriate dermal protection with basic employee training	Appropriately selected gloves	n/a
Chemical resistant dermal protection with specific employee training. Effectiveness≥ 95%	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands; For further specification, refer to section 8 of the SDS.	n/a	n/a	Chemically resistant gloves and other appropriate dermal protection with specific activity training	Appropriately selected gloves with trained worker	n/a

2.9. Face /eye protection

Harmonised Value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
No		n/a	n/a	n/a	No	n/a
Goggles	Use suitable eye protection	n/a	n/a	n/a	Eye protection	n/a
Face protection/visor	Wear suitable face shield	n/a	n/a	n/a	Face protection/visor	n/a

2.10. Place of use

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Indoors	Indoor use	30 m3	Volume under 100 m3	Indoors	Any size workroom	n/a
		Any size workroom				
		Small workrooms only				
Indoors (room 100-1000 m3)	Covers room volume ≥ 100 m^3	100 m3	Volume 100-1000 m3	Indoors	Any size workroom	n/a
		300 m3				
		Large workrooms only				
Indoors (room > 1000 m3)	Covers room volume > 1000 m^3	1000 m3	Volume over 1000 m3	Indoors	Large workrooms only	n/a
		3000 m3				

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Outdoors	Outdoor use	Outdoors	Handling outdoors	Outdoors	Outdoors	n/a

2.11. Operating temperature

Harmonised value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
Numerical value	Assumes process temperature up to …C	Numerical value Or from pick list	n/a Vp is set at operating temperature	n/a Exposure predicted at the temperature at which the vapour pressure is provided.	Numerical value	Numerical value Volatility band based on: - Vp at operating temperature **or** - rules considering the operating temperature and the boiling point of the substance

3. Additional generic CoU

3.1. Containment

Harmonised Value	Harmonised communication	ART	Stoffenmanager ® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
No containment		No containment	No control measures at the source	Level of containment is assumed for certain activities (PROCs 1-3). Containment is not supported for other activities	See specific CoUs for Mease 2	No containment
Low level (90%)	Process contained with a loose lid or cover, not airtight; The enclosure is not opened during the activity.	Low level (90%)	Containment of the source			No containment
Medium level (99%)	Transfer is enclosed with the receiving vessel being docked or sealed to the source vessel; The enclosure is not opened during the activity.	Medium level (99%)	Containment of the source			Containment For different activities (PROCs) the EMKG-EXPO-TOOL suggests different control guidance sheets on containment; Series G300
High level (99.9%)	Substance contained within a sealed and enclosed system; Material transfer entirely enclosed with high containment valves; The enclosure is not opened					Containment

Harmonised Value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA	MEASE 2	EMKG EXPO TOOL
	during the activity.					

3.2. Suppression techniques for solid products

Harmonised Value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA[1]	MEASE 2	EMKG EXPO TOOL[1]
No suppression technique		No suppression technique	No control measures at the source	n/a	No suppression technique	n/a
Wetting at the point of release	Provide wetting at the point of release	Wetting at the point of release	Use of a product that reduces the emission (dropdown on control measures)	n/a	Wet suppression	n/a
Capture dust using e.g. water curtain	Provide knockdown suppression	Knockdown suppression	n/a	n/a	Capture sprays	n/a

(1) The CoU is not relevant for the tool

3.3. Personal enclosure *

Harmonised Value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA[1]	MEASE 2[1]	EMKG EXPO TOOL[1]
No		No personal enclosure	The employee does not work in a cabin	n/a	n/a	n/a

Harmonised Value	Harmonised communication	ART	Stoffenmanager® 8.0	ECETOC TRA[1]	MEASE 2[1]	EMKG EXPO TOOL[1]
Partially open control room without specific ventilation system	Ensure that the worker is in a cabin or separate room	Partial personal enclosure without ventilation	The employee is situated in an open or closed cabin without specific ventilation system	n/a	n/a	n/a
Partially open control room with own ventilation system	Ensure that the worker is in a cabin or separate room with an own ventilation system	Partial personal enclosure with ventilation	The employee is situated in an open or closed cabin without specific ventilation system	n/a	n/a	n/a
Separated control room without specific ventilation system	Ensure that the worker is in a separated (control) room	Complete personal enclosure without ventilation	The employee is situated in an open or closed cabin without specific ventilation system	n/a	n/a	n/a
Separated control room with independent clean air supply	Ensure that the worker is in a separated (control) room with independent clean air supply	Complete personal enclosure with ventilation	The worker is in a separated (control) room with independent clean air supply	n/a	n/a	n/a

* Only relevant for far field exposure (>1 m)

(1) The CoU is not relevant for the tool

3.4. Distance of workers to the source

Harmonised Value	Harmonised communication	ART	Stoffenmanager ® 8.0	ECETOC TRA[1]	MEASE 2[1]	EMKG EXPO TOOL[1]
< 1m		< 1m	< 1m	n/a	n/a	n/a
≥ 1m	Ensure that distance between the source of emission and the worker is at least 1m	> 1m	> 1m	n/a	n/a	n/a

(1) The CoU is not relevant for the tool

4. Additional generic CoU only relevant for ART

4.1. Vapour recovery system

Harmonised value (default in bold)	Harmonised communication
Yes	Provide vapour recovery system
No	

4.2. Glove bag/box

Harmonised value (default in bold)	Harmonised communication
No glove bag/box	
Glove bag (non-ventilated)	Handle in glove bag
Glove bag (ventilated or kept under negative pressure)	Handle in ventilated glove bag
Low-specification glove box	Handle in glove box
Medium-specification glove box	Handle in glove box with 2 or more chambers and safe change filters, HEPA filters and maintained under negative pressure
High-specification glove box/isolator	Handle in glove box with 2 or more chambers and safe change filters, HEPA filters and maintained under negative pressure; Provide integrated sampling, contained drum charging, and sealed and high containment transfer ports.

4.3. Downward laminar flow booth[14]

Harmonised value (default in bold)	Harmonised communication
No [15]	
No barriers or screens	Ensure that the activity takes place in a downward laminar flow booth
Partial screen	Ensure that the activity takes place in a downward laminar flow booth with partial screens
Partial screen fitted with glove ports	Ensure that the activity takes place in a downward laminar flow booth with partial screens and fitted with glove ports
Full screen fitted with glove ports	Ensure that the activity takes place in a downward laminar flow booth with full screen and fitted with glove ports

[14] In ART this is a place of use, if set to "yes" then place of use and G. ventilation values are not required.

[15] *This CoU should not be selected if not chosen in the place of use dropdown. Such value only exist to prevent mistakes*

4.4. Segregation of the source

Harmonised value (default in bold)	Harmonised communication
No segregation	
Partial segregation of the source	Ensure that the source is partially isolated in a separate room.
Partial segregation of the source with ventilation	Ensure that the source is partially isolated in a separate room with ventilation and filtration of recirculated air.
Complete segregation of the source	Ensure that the source is completely isolated in a separate room (including closed doors and windows).
Complete segregation of the source with ventilation	Ensure that the source is completely isolated in a separate room (including closed doors and windows) with ventilation and filtration of recirculated air.

4.5. Distance of the source to buildings

Harmonised value (default in bold)	Harmonised communication
Close to buildings	
Far from buildings	Outdoors, not close to buildings

5. Additional conditions of use only relevant for ART associated to a specific activity class or subclass

The ART tool codifies the different work activities in "activity classes" or subclasses". These activity classes or subclasses have some conditions of use specific for them. In this section each activity class or subclass appears as a heading followed by tables with the conditions of use associated only to that activity (maximum 3 or 4 per activity). In the case, where two activity subclasses have common conditions of use (e.g. for different types of transfers), all the CoU (e.g. for transfer of solids) appear under the same the heading and it has been flagged when a CoU is relevant only for one of the activity subclasses.

5.1. "Fracturing and abrasion of solid objects" when the material of the solid object is "wood"

5.1.1. Type of handling

Value	Harmonised communication
Manual handling of wood resulting in a very limited amount of dust	Covers manual handling of wood resulting in a very limited amount of dust (e.g. screw setting)
Manual handling of wood resulting in a limited amount of dust	Covers manual handling of wood resulting in a limited amount of dust (e.g. manual sawing, scraping paint)
Mechanical handling of wood resulting in a limited amount of dust	Covers mechanical handling of wood resulting in a limited amount of dust (e.g. planner, chainsaw, drilling of holes)
Mechanical handling of wood resulting in a large amount of dust	Covers mechanical handling of wood (e.g. milling, circular saw)
Mechanical sanding of wood resulting in a large amount of dust	

5.1.2. Level of containment of the process for fracturing or abrasion of wood objects

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air; (e.g enclosed cover on a circular saw)

5.2. "Fracturing and abrasion of solid objects" when the material of the solid object is "stone"

5.2.1. Type of handling

Value	Harmonised communication
Careful breaking of stones	Covers careful breaking of stones (e.g. mechanical tile breaking)
Manual pulverization or treatment of	Covers manual pulverisation or treatment of small-

small-sized objects	sized objects (e.g. manual polishing)
Mechanical pulverization of stones	Covers mechanical pulverisation of stones (e.g. use of jack hammer)
Mechanical treatment/abrasion of small-sized surfaces	Covers mechanical treatment/abrasion of small surfaces (e.g. hand held grinders removing mortar)
Mechanical treatment/abrasion of large surfaces	
Mechanical pulverization of large amounts of stone	

5.2.2. Level of containment of the process for fracturing or abrasion of stone objects

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air (e.g. enclosed stone crashing machine)

5.3. Abrasive blasting

5.3.1. Surface treated

Value	Harmonised communication
Abrasive blasting of very large surfaces	
Abrasive blasting of large surfaces	Covers abrasive blasting of large surfaces (e.g. blasting car bodies)
Abrasive blasting of small parts	Covers abrasive blasting of small parts (e.g. small statues, bicycle frame parts))
Micro-abrasive blasting	Covers small scale abrasive blasting (blasting area of about a few centimeters)

5.3.2. Type of abrasive blasting

Value	Harmonised communication
Dry abrasive blasting	
Wet abrasive blasting	Covers wet abrasive blasting

5.3.3. Direction of abrasive blasting

Value	Harmonised communication
Abrasive blasting in any direction (including upwards)	
Only horizontal or downward blasting	Covers direction of blasting only horizontal or downward

Only downward blasting	Covers direction of blasting only downward

5.4. Impaction on contaminated solid objects

5.4.1. Level of contamination of impacted solid objects

Value	Harmonised communication
Impaction on substantially and visibly contaminated objects (layers of > 0.5 kg)	
Impaction on objects with visible residual dust	Covers impaction on objects with visible residual dust (e.g. object covered with dust from surrounding dusty activities)
Impaction on objects with limited visible residual dust	Covers impaction on objects with limited visible residual dust (thin layer visible)
Impaction on slightly contaminated objects	Covers impaction on slightly contaminated objects (e.g. objects after closed filling operations).
Impaction on apparently clean objects	Covers impaction on apparently clean objects (e.g. drums coming out of a cleaning machine)

5.4.2. Force of impaction on solid objects

Value	Harmonised communication
Normal impaction (manual or light mechanical)	Covers normal impaction (manual or light mechanical, e.g. manual hammering, beating carpets).
Heavy mechanical impaction	

5.5. Handling contaminated solid objects or paste

5.5.1. Level of contamination of handled solid objects

Value	Harmonised communication
Handling of substantially and visibly contaminated objects (layers of > 0.5 kg)	
Handling of objects with visible contamination	Covers handling of objects with visible residual dust (e.g. object covered with dust from surrounding dusty activities)
Handling of objects with limited residual dust	Covers handling of objects with limited visible residual dust (thin layer visible)
Handling of slightly contaminated	Covers handling of slightly contaminated objects (layers of less than a few grams)
Handling of apparently clean objects	Covers handling of apparently clean objects (e.g. drums coming out of a cleaning machine)

5.5.2. Carefulness of handling for contaminated objects

Value	Harmonised communication
Handling that departs from regular work procedures and involves large amounts of energy (e.g. rough handling or throwing of bags)	
Normal handling, involves regular work procedures	Assumes regular work procedures
Careful handling, involves workers showing attention to potential danger, error or harm and carrying out the activity in a very exact and thorough (or cautious) manner	Assumes careful handling

5.6. Spray application of powders

5.6.1. Type of spraying application of powder

Value	Harmonised communication
Powder coating	Covers powder spraying.
Dusting using blower	Covers dusting using blower.

5.6.2. Direction for spraying

Value	Harmonised communication
Spraying in any direction (including upwards)	
Only horizontal or downward spraying	Ensure that direction of application is only horizontal or downward
Only downward spraying	Ensure that direction of application is only downward

5.7. Movement and agitation of powders

5.7.1. Quantity of product

Value	Harmonised communication
≥ 1000 kg	
100–1000 kg	Covers quantities < 1000 kg
10–100 kg	Covers quantities < 100 kg
1–10 kg	Covers quantities < 10 kg
0.1–1 kg	Covers quantities < 1 kg
10–100 g	Covers quantities < 100 g

< 10 g	Covers quantities < 10 g

5.7.2. Level of agitation

Value	Harmonised communication
Application of compressed air	
Other handling with high level of agitation	Covers handling with no use of compressed air.
Handling with low level of agitation	Covers handling with low level of agitation (e.g. manual mixing)

Level of containment of the process for movement and agitation of powders

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air (e.g. contained sieving of big bags with only small opening)

5.8. Transfer of powders: "Falling of powders" and "Vacuum transfer of powders"

5.8.1. Transfer rate for powders

Value	Harmonised communication
> 1000 kg/min	
100–1000 kg/min	Covers transfer of powders <1000 kg/min
10–100 kg/min	Covers transfer of powders <100 kg/min
1–10 kg/min	Covers transfer of powders <10 kg/min
0.1–1 kg/min	Covers transfer of powders <1 kg/min
10–100 g/min	Covers transfer of powders <100 g/min
< 10 g/min	Covers transfer of powders <10 g/min

5.8.2. Carefulness of handling for falling powders

Applicable only to "falling powders"

Value	Harmonised communication
Routine transfer	
Careful transfer	Ensure careful transfer that involves workers showing attention to potential danger, error or harm and carrying out the activity in a very exact and thorough (or cautious) manner e.g. careful weighing in laboratory

5.8.3. Level of containment of the process for vacuum transfer of powders

Applicable only to "vacuum transfer of powders"

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air (e.g. vacuum transfer from reservoir with small opening to enclosed reservoir)

5.8.4. Drop height for transfer of powders

Applicable only to "falling powders"

Value	Harmonised communication
≥ 0.5 m	
< 0.5 m	Covers height during transfer < 0.5 m.

5.8.5. Level of containment of the process for falling powders

Applicable only to "falling powders"

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air (e.g. dumping powders in a big bag through an small opening

5.9. Compressing of powders

5.9.1. Compressing rate of powders

> 1000 kg/min	
100–1000 kg/min	Covers compressing of powders <1000 kg/min
10–100 kg/min	Covers compressing of powders <100 kg/min
1–10 kg/min	Covers compressing of powders <10 kg/min
0.1–1 kg/min	Covers compressing of powders <1 kg/min
10–100 g/min	Covers compressing of powders <100 g/min
< 10 g/min	Covers compressing of powders <10 g/min

5.9.2. Level of containment of the process for compressing of powders

Value	Harmonised communication
Open process	
Handling that reduces contact	Ensure that the handling reduces contact between product and adjacent air (e.g. enclosed tabletting

between product and adjacent air	machine (relatively small openings are possible))

5.10. Fracturing of powders

5.10.1. Fracturing rate

Value	Harmonised communication
> 1000 kg/min	
100–1000 kg/min	Covers fracturing of powders < 1000 kg/min
10–100 kg/min	Covers fracturing of powders < 100 kg/min
1–10 kg/min	Covers fracturing of powders < 10 kg/min
0.1–1 kg/min	Covers fracturing of powders < 1 kg/min
10–100 g/min	Covers fracturing of powders < 100 g/min
< 10 g/min	Covers fracturing of powders < 10 g/min

5.10.2. Level of containment of the process

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air (e.g. enclosed tablet crushing (relatively small openings are possible)

5.11. Surface spraying of liquids

5.11.1. Application rate for spraying of liquid to surfaces

Value	Harmonised communication
High (> 3 l/min)	
Moderate (0.3-3 l/min)	Moderate application rate (0.3-3 l/min)
Low (0.03-0.3 l/min)	Low application rate (0.03-0.3 l/min)
Very low (< 0.03 l/min)	Very low application rate (< 0.03 l/min)

5.11.2. Direction for spraying of liquid to surface

Value	Harmonised communication
Spraying in any direction (including upwards)	

Only horizontal or downward spraying	Ensure that direction of application is only horizontal or downward
Only downward spraying	Ensure that direction of application is only downward

5.11.3. Technique for spraying of liquid to surfaces

Value	Harmonised communication
High compressed air	
No or low compressed air	Spraying with no or low compressed air use

5.12. Spraying of liquids in a space

5.12.1. Scale of application for spraying of liquids in a space

Value	Harmonised communication
Large scale space spraying	
Small scale space spraying	Covers spraying of small quantities, such as fly spraying.

5.13. Activities with open liquid surfaces and open reservoirs

5.13.1. Open surface area of baths and reservoirs

Value	Harmonised communication
> 3 m^2	
1-3 m^2	Covers open baths or reservoirs with surface< 3 m2
0.3-1 m^2	Covers open baths or reservoirs with surface< 1 m2
0.1-0.3 m^2	Covers open baths or reservoirs with surface< 0.3 m2
< 0.1 m^2	Covers open baths or reservoirs with surface< 0.1 m2

5.14. Handling of contaminated objects

5.14.1. Surface area treated / contaminated with liquids

Value	Harmonised communication
Surface > 3 m2	
Surface 1–3 m2	Covers surfaces of treated/ contaminated objects < 3 m2
Surface 0.3–1 m2	Covers surfaces of treated/ contaminated objects < 1 m2
Surface 0.1–0.3 m2	Covers surfaces of treated/ contaminated objects < 0.3 m2
Surface < 0.1 m2)	Covers surfaces of treated/ contaminated objects < 0.1 m2

5.15. Handling of contaminated objects or paste

5.15.1. Level of contamination of the object/ paste contaminated with liquids

Value	Harmonised communication
> 90 % of surface	
10-90 % of surface	Covers objects with partially treated surface (i.e. less than 90%)
< 10 % of surface	Covers objects with minor parts of surface treated (i.e. less than 10%)

5.16. Spreading of liquid products

5.16.1. Scale of application for spreading of liquid to surface

Value	Harmonised communication
Surface > 3 m2/hour	
Surface: 1–3 m2/hour	Covers spreading on surfaces < 3 m2/hour
Surface: 0.3–1 m2/hour	Covers spreading on surfaces < 1 m2/hour
Surface: 0.1–0.3 m2/hour	Covers spreading on surfaces < 0.3 m2/hour
Surface: < 0.1 m2/hour	Covers spreading on surfaces < 0.1 m2/hour

5.17. Application of liquids in high speed processes

5.17.1. Scale of application of liquids in high speed processes

Value	Harmonised communication
Large-scale activities involving high speed movements	
Small-scale activities involving high speed movements	Covers small-scale activities involving high-speed movements (e.g. application of metal working fluid in machining small work pieces (i.e. < 10 kg)).

5.17.2. Level of containment of application of liquids in high speed processes

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air (e.g. enclosing panels around machining process)

5.18. Transfer of liquids "Falling liquids" and "Bottom loading"

5.18.1. Transfer rate for liquid products

Value	Harmonised communication
> 1000 l/min	
100-1000 l/min	Covers transfer of liquid <1000 l/min
10-100 l/min	Covers transfer of liquid <100 l/min
1-10 l/min	Covers transfer of liquid <10 l/min
0.1-1 l/min	Covers transfer of liquid <1 l/min
< 0.1 l/min	Covers transfer of liquid <0.1/min

5.18.2. Type of application of falling liquid product

Applicable only to "falling liquids"

Value	Harmonised communication
Splash loading	
Submerged loading	Covers submerged loading.

5.18.3. Level of containment of falling liquid products

Applicable only to "falling liquids"

Value	Harmonised communication
Open process	
Handling that reduces contact between product and adjacent air	Ensure that the handling reduces contact between product and adjacent air (e.g. transfer of liquid through a small filling opening (e.g. refuelling of vehicles))

6. Additional generic conditions of use only relevant for MEASE 2

6.1. Mease Containment

Value	Harmonised communication
Completely closed	Assumes that the process is completely enclosed during standard operation including tasks such as transfer operations or sampling. Opening for, e.g. charging or emptying of the system, is to be addressed in a separate assessment.
Essentially closed	Assumes that the process is completely enclosed for the vast majority of its duration. Limited manual intervention and controlled opening during operation may occur for maintenance or cleaning tasks (e.g. often required if solids are being handled).
Partly closed	Assumes that exposure may occur during temporary unavoidable (but intended) removal of containment or technically or process-wise not enclosable small openings.
Open	

6.2. Level of automation

Value	Harmonised communication
Fully automated	Workers are only involved in supervision and control walks. Direct contact with the substance is not possible.
Highly automated	Very limited manual invention is required to run the process. Contact with the substance may be possible for a very limited duration of time.
Semi-automated	Manual intervention is repeatedly required although large parts of the process are machinery assisted.

6.3. Chemical protective clothing

Value	Harmonised communication
Standard safety clothing	Wear suitable protective clothing
Standard safety clothing with neck covered	Wear suitable protective clothing with neck covered

7. Additional generic conditions of use only relevant for MEASE 2 associated to specific activities (PROCs)

7.1. Conditions relevant for PROCs 8a, 8b, 9, 15 and 26

7.1.1. Container capacity

Value	Harmonised communication
Bags (ca. 25 kg)	
Kegs & Drums (up to 200 L)	
IBC (up to 1000 L)	
Big bags (>500 kg)	
Conveyer belt, etc.	

7.1.2. Number of containers used

Value	Harmonised communication
<=2	
<=10	
<=100	
>100	

7.2. Conditions relevant for PROC 28

7.2.1. Cleaning equipment

Value	Harmonised communication
Mop	No sweeping. Wet cleaning of the workplace.
Hoover	No sweeping. Dry cleaning of the workplace with hoover.
Wet cleaning car	No sweeping. Wet cleaning of the workplace with cleaning car.
Hoovering car	No sweeping. Dry cleaning of the workplace with hoovering car.