Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES1 - Manufacture of substances 1 Formic Acid 75% 12-Feb-2015 SU8 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 - Manufacture of fine chemicals

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC1 - Manufacture of substances

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure			
Title	Contributing Scenario [CS]		
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises		
Covers concentrations up to	100 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	>4 h/day		
Use frequency	<= 240 days per year		
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% (PROC 2, PROC 3, PROC 4)		
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified		
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4)		
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure PROC4 - Use in batch and other process (synthesis) where opportunity for exposure		

	arises		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities		
Covers concentrations up to	100 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
Use frequency	<= 240 days per week		
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 97% (PROC 8b) 95% alt. PPE (PROC 8a)		
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV (PROC 8a) Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified		
Covers skin contact area up to	480 cm2 (PROC 8b),960 cm2(PROC 8a)		
Remarks	Palm of both hands PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Both hands PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities		
Indoor/Outdoor use	Indoor use		
T :(1_	Operative times Operative (OO)		
l itie			

Title	Contributing Scenario [CS]
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 hours/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2
Remarks	Palm of one hand
Indoor/Outdoor use	Indoor use

Environmental exposure

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method Used ECETOC TRA model				
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m ³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.203
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.822 mg/kg bw/day	0.508
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.894 mg/m ³	0.305
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/m ³	0.305
Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/cm3	0.203

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES2 - Distribution of substance 1 Formic Acid 75% 12-Feb-2015 SU8 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 - Manufacture of fine chemicals

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC1 - Manufacture of substances

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure			
Title	Contributing Scenario [CS]		
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities		
Covers concentrations up to	100 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
Use frequency	<= 240 days per week		
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 97% (PROC 8b) 95% alt. PPE (PROC 8a)		
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% (PROC 8a) Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified		
Covers skin contact area up to	480 cm2 (PROC 8b),960 cm2(PROC 8a)		
Remarks	Palm of both hands PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Both hands PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities		

Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 hours/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2
Remarks	Palm of one hand

Environmental exposure

Environmental release category(ies)

ERC1 - Manufacture of substances

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method Used ECETOC TRA model				
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m³	0.508
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.894 mg/m³	0.305
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/m³	0.305
Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/cm3	0.203

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES3 - Formulations 1 Formic Acid 75% 12-Feb-2015 SU10 - Formulation [mixing]

SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC2 - Formulation of preparations (mixtures)

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure	
Title	Contributing Scenario [CS]
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	100% (PROC 1, PROC 2, PROC 3, PROC 4), 90% (PROC 5)
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	>4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% (PROC 2, PROC 3, PROC 4, PROC 5)
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4, PROC 5)
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure

	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure		
	arises		
	PROC5 - Mixing or blending in batch processes for formulation of preparations and		
	articles (multi-stage and/or significant contact)		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to		
	vessels/large containers at non dedicated facilities		
	PROC8b - Transfer of substance or preparation (charging/discharging) from/to		
	vessels/large containers at dedicated facilities		
	PROC9 - Transfer of substance or preparation into small containers (dedicated filling		
	line, including weighing)		
Covers concentrations up to	100% (PROC 8b), 90% (PROC 8a, PROC 9)		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
	~ - 240		
Ose frequency	<= 240 days per week		
Technical conditions and measures	Local exhaust ventilation efficiency of at locat		
to control dispersion from source	20% (PROC 82 PROC 0) 07% (PROC 8b)		
towards the worker			
Conditions and measures related to	Respiratory protection not applicable		
personal protection, bygiene and	Mean suitable gloves (tested to EN374), coverall and eve protection		
health evaluation	For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
/limit releases dispersion and	No specific measures identified		
exposure			
Covers skin contact area up to	180 cm2 (PROC 8b, PROC 9) 960 cm2(PROC 8a)		
Pomarka	Polm of both bands		
Remarks	PROC9b Transfer of substance or propagation (charging/discharging) from/to		
	vessels/large containers at dedicated facilities		
	PROC9 - Transfer of substance or preparation into small containers (dedicated filling		
	line including weighing)		
	Both bands		
	PROC8a - Transfer of substance or preparation (charging/discharging) from/to		
	vessels/large containers at non dedicated facilities		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(jes)	PROC14 - Production of preparations or articles by tablating compression extrusion		
r rocess category (les)	nelettising		
Covers concentrations up to			
Develop form of product			
vapour pressure	42.7 hPa		
l emperature vapour pressure	20 °C		
Exposure duration	> 4 hours/day		
Use frequency	<= 240		
	days per year		
Technical conditions and measures	Local exhaust ventilation - efficiency of at least		
to control dispersion from source	90%		
towards the worker			
Conditions and measures related to	Respiratory protection not applicable		
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection		
health evaluation	For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
limit releases, dispersion and			
exposure			
Covers skin contact area up to	480 cm2		
Remarks	Palm of both hands		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC15 - Use as laboratory reagent		
Covers concentrations up to	100 %		

Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	< = 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2
Remarks	Palm of one hand
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies)

ERC2 - Formulation of preparations (mixtures)

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	3.858 mg/m³	0.203
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	4.822 mg/kg bw/day	0.508
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	8.681 mg/m ³	0.914
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	17.363 mg/m ³	0.914
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	8.681 mg/m ³	0.914
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	17.363 mg/m ³	0.914
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	2.894 mg/m ³	0.305

Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	5.788 mg/cm3	0.305
Contributing Scenario [CS] 9	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	8.681 mg/m ³	0.914
Contributing Scenario [CS] 9	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	17.363 mg/m ³	0.914
Contributing Scenario [CS] 14	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	8.681 mg/m ³	0.914
Contributing Scenario [CS] 14	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	17.363 mg/m ³	0.914
Contributing Scenario [CS] 15	Worker - inhalative, long-term - systemic	Used ECETOC TRA model	1.929 mg/m³	0.203
Contributing Scenario [CS] 15	Worker - inhalative, short-term - systemic	Used ECETOC TRA model	3.858 mg/m ³	0.203

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES4 - Use as an intermediate 1 Formic Acid 75% 12-Feb-2015 SU8 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 - Manufacture of fine chemicals

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC1 - Manufacture of substances

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure		
Title	Contributing Scenario [CS]	
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	
Covers concentrations up to	100 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	>4 h/day	
Use frequency	<= 240 days per year	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% (PROC2, PROC 3, PROC 4)	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4)	
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure PROC4 - Use in batch and other process (synthesis) where opportunity for exposure	

	arises	
Indoor/Outdoor use	Indoor use	
Title	Contributing Scenario [CS]	
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	
Covers concentrations up to	100 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	> 4 h/day	
Use frequency	<= 240 days per week	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 97% (PROC 8b), 95% alt. PPE (PROC 8a)	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection 95% alt. LEV (PROC 8a) Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	480 cm2 (PROC 8b),960 cm2(PROC 8a)	
Remarks	Palm of both hands PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Both hands PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	
Indoor/Outdoor use	Indoor use	
	·	
Title	Contributing Scenario [CS]	
Process category(jes)	PROC15 - Lise as laboratory reagent	

PROC15 - Use as laboratory reagent
100 %
Liquid
42.7 hPa
20 °C
> 4 hours/day
<= 240 days per year
Local exhaust ventilation - efficiency of at least 90%
Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
No specific measures identified
240 cm2
Palm of one hand
Indoor use

Environmental exposure

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.203
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.822 mg/kg bw/day	0.508
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/cm3	0.508
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.894 mg/m ³	0.305
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/m ³	0.305
Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.203

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES5 - Use in coatings 1 Formic Acid 75% 12-Feb-2015 SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC6b - Industrial use of reactive processing aids

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure		
Title	Contributing Scenario [CS]	
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	
Covers concentrations up to	100 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	>4 h/day	
Use frequency	<= 240 days per year	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% (PROC 2, PROC 3, PROC 4)	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4)	
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure PROC4 - Use in batch and other process (synthesis) where opportunity for exposure	

	arises	
Indoor/Outdoor use	Indoor use	
Title	Contributing Scenario [CS]	
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	
Covers concentrations up to	100 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	> 4 h/day	
Use frequency	<= 240 days per week	
Conditions and measures related to	Wear a respirator providing a minimum efficiency of	
personal protection, hygiene and health evaluation	95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection	
Organisational measures to prevent /limit releases, dispersion and	No specific measures identified	
exposure		
Covers skin contact area up to	480 cm2	
Remarks	Palm of both hands	
Indoor/Outdoor use	Indoor use	
	•	
Title	Contributing Scenario [CS]	
Process category(ies)	PROC7 - Industrial spraying	
Covers concentrations up to	30 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	> 4 hours/day	
Use frequency	<= 240 days per year	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	1500 cm2	
Remarks	Hands and forearms	
Indoor/Outdoor use	Indoor use	
Title	Contributing Scenario [CS]	
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	
Covers concentrations up to	100 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	> 4 h	
Use frequency	< = 240 days per year	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 97% (PROC 8b)	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% (PROC 8a alt. LEV 95%) Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	

Covers skin contact area up to	480 cm2 (PROC 8b),960 cm2(PROC 8a).
Remarks	Palm of both hands
	PROC8b - Transfer of substance or preparation (charging/discharging) from/to
	vessels/large containers at dedicated facilities
	Both hands
	PROC8a - Transfer of substance or preparation (charging/discharging) from/to
	vessels/large containers at non dedicated facilities
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario (CS)
	DROC10 Bollor application or brushing
Process calegory(les)	PROC10 - Roller application of brushing PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
	- 240
	days per vear
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and	95% alt. LEV 95%
health evaluation	Wear suitable gloves (tested to EN374), coverall and eve protection
	For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
/limit releases, dispersion and	
exposure	
Covers skin contact area up to	480 cm2 (PROC 13),960 cm2(PROC 10).
Remarks	Palm of both hands
Remarks	Palm of both hands PROC13 - Treatment of articles by dipping and pouring
Remarks	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands
Remarks	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing
Remarks Indoor/Outdoor use	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use
Remarks Indoor/Outdoor use	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use
Remarks Indoor/Outdoor use	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use
Remarks Indoor/Outdoor use Title Process category(ies)	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 %
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90%
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90%
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified 240 cm2
Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks	Palm of both hands PROC13 - Treatment of articles by dipping and pouring Both hands PROC10 - Roller application or brushing Indoor use Contributing Scenario [CS] PROC15 - Use as laboratory reagent 100 % Liquid 42.7 hPa 20 °C > 4 h <= 240 days per year Local exhaust ventilation - efficiency of at least 90% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified 240 cm2 Palm of one hand

Environmental exposure

Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC6b - Industrial use of reactive processing aids

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.203
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.822 mg/kg bw/day	0.508
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 7	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.234 mg/m ³	0.762
Contributing Scenario [CS] PROC 7	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	14.469 mg/m ³	0.762
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/cm3	0.508
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.893 mg/m ³	0.305
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/m ³	0.305
Contributing Scenario [CS] PROC 10	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 10	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS]	Worker - inhalative,	Used ECETOC TRA	4.823 mg/m ³	0.508

PROC 13	long-term - local and systemic	model		
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.203

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES6 - Industrial Use: Cleaning agent 1 Formic Acid 75% 12-Feb-2015 SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure		
Title	Contributing Scenario [CS]	
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	
Covers concentrations up to	100 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	>4 h/day	
Use frequency	<= 240 days per year	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% (PROC 2, PROC 3, PROC 4)	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4)	
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure	

	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Indoor/Outdoor use	Indoor use
	-
Title	Contributing Scenario [CS]
Process category(les)	PROC7 - Industrial spraying
Covers concentrations up to	
Physical form of product	
	42.7 hPa
Exposure duration	
	> 4 1/day
	days per week
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	1500 cm2
Remarks	Hands and forearms
Indoor/Outdoor use	Indoor use
	·
Title	Contributing Scenario [CS]
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 hours/day
Use frequency	<= 240
	days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, nyglene and	95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eve protection
	For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use
Process category(les)	PROC8b - Transfer of substance of preparation (charging/discharging) from/to
Covers concentrations up to	
Physical form of product	
Temperature vapour pressure	-+2.7 m a 20 °C
Exposure duration	20 C
	- 240
Use nequency	davs per vear
Technical conditions and measures	Local exhaust ventilation - efficiency of at least
to control dispersion from source towards the worker	97%
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands

Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240
	days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and	95% alt. LEV 95%
health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection
Organizational maggurag to provent	For further specification, refer to section 8 of the SDS
/limit releases, dispersion and	livo specific measures identified
exposure	
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240
-	days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and	95% alt. LEV 95%
	For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
/limit releases, dispersion and	
exposure	
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	85 %
Physical form of product	
Vapour pressure	42.7
l emperature vapour pressure	20 °C
Exposure duration	>4h
Use frequency	<= 240 dava parturar
Conditions and massures related to	uays per year
personal protection, bygiene and	90% alt LEV 90%
health evaluation	Wear suitable gloves (tested to EN374), coverall and eve protection
	For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
limit releases, dispersion and	
exposure	
Covers skin contact area up to	1980 cm2
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.203
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.822 mg/kg bw/day	0.508
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 7	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.234 mg/m ³	0.761
Contributing Scenario [CS] PROC 7	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	14.469 mg/m ³	0.761
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.894 mg/m ³	0.305
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/cm3	0.305
Contributing Scenario [CS] PROC 10	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 10	Worker - inhalative, short-term - local and	Used ECETOC TRA model	9.646 mg/m ³	0.508

	systemic			
Contributing Scenario [CS] PROC 13	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 19	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	8.199 mg/m ³	0.863
Contributing Scenario [CS] PROC 19	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	16.398 mg/m ³	0.863

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title
Version
Product Name
Revision Date
Sector(s) of use

ES7 - Professional use: Cleaning agent 1 Formic Acid 75% 12-Feb-2015 SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Remarks

Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

control of worker exposure	
Title	Contributing Scenario [CS]
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	>4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80% (PROC 2)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% (PROC 3, PROC 4 alt. LEV 95%) Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4)
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure PROC3 - Use in closed batch process (synthesis or formulation)

	Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Indoor/Outdoor use	Indoor use
Process category(ies)	Contributing Scenario [CS] PROC8a - Transfer of substance or preparation (charging/discharging) from/to
	vessels/large containers at non dedicated facilities
Covers concentrations up to	80 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 hours/day
Use frequency	<= 240 days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and health evaluation	95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	80 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario (CS)
Process category(jes)	PROC10 - Roller application or brushing
Covers concentrations up to	
Physical form of product	
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240 days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and health evaluation	95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection
	For turther specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	INO SPECIFIC measures identified

	-
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	15 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240
	days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and	95% alt. LEV 95%
health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection
	For further specification, refer to section 8 of the SDS
Urganisational measures to prevent	No specific measures identified
exposure	
Covers skin contact area up to	1500 cm2
Remarks	Hands and forearms
Indoor/Outdoor use	
Title	Contributing Scenario [CS]
Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	50 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240
	days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and	95% alt. LEV 95%
health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection
	For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
limit releases, dispersion and	
Covers skip contact area up to	490 cm2
Remarks	Palm of both hands
Indeer/Outdeer use	
Title	Contributing Scenario [CS]
Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	85 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	<=1h
	<=240
	days per year
Conditions and measures related to	Wear a respirator providing a minimum efficiency of

	days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90% alt. LEV 90% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	1980 cm2
Indoor/Outdoor use	Indoor

Environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method		Used ECETOC	TRA model
	_		

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m³	0.812
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.411 mg/kg bw/day	0.254
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.254
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/cm3	0.812
Contributing Scenario [CS] PROC 10	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 10	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 11	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.234 mg/m ³	0.762
Contributing Scenario [CS]	Worker - inhalative	Used ECETOC TRA	14 469 mg/m ³	0 762

PROC 11	short-term - local and systemic	model		
Contributing Scenario [CS] PROC 13	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 19	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.280 mg/m ³	0.345
Contributing Scenario [CS] PROC 19	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	16.398 mg/m ³	0.345

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title	
Version	
Product Name	
Revision Date	
Sector(s) of use	
Product category(ie	S)

ES8 - Consumer use: Cleaning agent 1 Formic Acid 75% 12-Feb-2015 SU21 - Consumer uses: Private households (= general public = consumers) PC35 - Washing and cleaning products (including solvent based products)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

Not applicable

Remarks

Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure		
Title	Contributing Scenario [CS]	
Product (sub) category(ies)	PC35 - Washing and cleaning products (including solvent based products)	
Covers concentrations up to	7.5%	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20°C	
Amounts used	25g/25mL	
Exposure duration	24 hours	
Risk management measures	None	
Use in room with a volume of minimum	58m3	
Minimum room ventilation rate for handling/application (air changes per hour)	0.5 l/hr	

Section 3 - Exposure estimation

Environmental exposure

Environmental release category(ies) Not applicable

Remarks

Not relevant since not classified as dangerous for the environment.

Control of consumer exposure

Calculation method The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Title	Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)	Calculation method
Contributing Scenario [CS] PC 35	PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	2.694 mg/m ³	0.898	
Contributing Scenario [CS] PC 35	PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, short-term - local and systemic	1.937 mg/m³	0.915	

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title
Version
Product Name
Revision Date
Sector(s) of use

ES9 - Industrial Use: Laboratory chemicals 1 Formic Acid 75% 12-Feb-2015 SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC8a - Wide dispersive indoor use of processing aids in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure	
Title	Contributing Scenario [CS]
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 hours/day
Use frequency	<= 240
	days per year
Technical conditions and measures	Local exhaust ventilation - efficiency of at least
to control dispersion from source	90%
towards the worker	
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection
health evaluation	For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
limit releases, dispersion and	
exposure	
Covers skin contact area up to	240 cm2
Remarks	Palm of one hand
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC8a - Wide dispersive indoor use of processing aids in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m³	0.203
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/cm3	0.203

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES10 - Professional use: Use as laboratory reagent 1 Formic Acid 75% 12-Feb-2015 SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC8a - Wide dispersive indoor use of processing aids in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure	
Title	Contributing Scenario [CS]
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 hours/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2
Remarks	Palm of one hand
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC8a - Wide dispersive indoor use of processing aids in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.406
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.406

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title
Version
Product Name
Revision Date
Sector(s) of use

ES11 - Manufacture: of polymers including resins 1 Formic Acid 75% 12-Feb-2015 SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU12 - Manufacture of plastics products, including compounding and conversion

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) ERC6c - Industrial use of monomers for manufacture of thermoplastics

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure	
Title	Contributing Scenario [CS]
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	>4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% (PROC 2, PROC 3, PROC 4)
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4)
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure

	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises		
Indoor/Outdoor use	Indoor use		
T:41 -	Contributing Congoria (CC)		
Process category(ies)	DROC5 - Mixing or blending in batch processes for formulation of preparations and		
r rocess category(les)	articles (multi-stage and/or significant contact)		
Covers concentrations up to	100 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
Use frequency	<= 240 days per week		
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified		
Covers skin contact area up to	480 cm2		
Remarks	Palm of both hands		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario (CS)		
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to		
	vessels/large containers at non dedicated facilities		
Covers concentrations up to	100 %		
Vapour pressure	42.7 NPa		
Exposure duration	54 h		
Use frequency	< = 240 days per year		
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified		
Covers skin contact area up to	960 cm2		
Remarks	Both hands		
Indoor/Outdoor use	Indoor use		
Title Process category(ies)	Contributing Scenario [CS] PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities		
Covers concentrations up to	100 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h		
Use frequency	<= 240 days per year		
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 97%		
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified		
Covers skin contact area up to	480 cm2		

Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of one hand
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies) ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) ERC6c - Industrial use of monomers for manufacture of thermoplastics

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method Used ECETOC TRA model					
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)	
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002	
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m³	0.002	
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203	
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.203	
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/kg bw/day	0.508	
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508	

Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/cm3	0.508
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.894 mg/m ³	0.305
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/m ³	0.305
Contributing Scenario [CS] PROC 9	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 9	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m³	0.508
Contributing Scenario [CS] PROC 14	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 14	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES12 - Industrial: for polymer processing 1 Formic Acid 75% 12-Feb-2015 SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8d - Wide dispersive outdoor use of processing aids in open systems

ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure		
Title	Contributing Scenario [CS]	
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	
Covers concentrations up to	100 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	>4 h/day	
Use frequency	<= 240 days per year	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	240 cm2 (PROC 1, PROC 3),480 cm2(PROC 2, PROC 4)	
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure	

	PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC6 - Calendaring operations
Covers concentrations up to	80 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240 days per week
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	480 cm2 (PROC 5), 960 cm2 (PROC 6).
Remarks	Palm of both hands PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) Both hands PROC6 - Calendaring operations
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario (CS)
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	80 %
Physical form of product	Liguid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	< = 240
	days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and	No specific measures identified
exposure	
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use
	Contributing Scenario [CS]
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
-	

Use frequency	<= 240 days per year
Technical conditions and measures	Local exhaust ventilation - efficiency of at least
to control dispersion from source towards the worker	97%
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
/limit releases, dispersion and	
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	80 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240 days per year
Technical conditions and measures	Local exhaust ventilation - efficiency of at least
to control dispersion from source towards the worker	90%
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection
nealth evaluation	For further specification, refer to section 8 of the SDS
/limit releases, dispersion and exposure	ino specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
	+
Title	Contributing Scenario [CS]
Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	80 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	>4h
Use frequency	<= 240 days per year
Technical conditions and measures	Local exhaust ventilation - efficiency of at least
to control dispersion from source	90%
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies)

ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8d - Wide dispersive outdoor use of processing aids in open systems

ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method

Risk management measures are based on qualitative risk characterization Used ECETOC TRA model

	Used ART mod	ei		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.203
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/kg bw/day	0.508
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 6	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 6	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/cm3	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS]	Worker - inhalative,	Used ECETOC TRA	2.894 mg/m ³	0.305

PROC 8b	long-term - local and systemic	model		
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/m³	0.305
Contributing Scenario [CS] PROC 9	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 9	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 13	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES13 - Professional: for polymer processing 1 Formic Acid 75% 12-Feb-2015 SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8d - Wide dispersive outdoor use of processing aids in open systems

ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure	
Title	Contributing Scenario [CS]
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	>4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80% (PROC 2)
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2 (PROC 1),480 cm2(PROC 2)
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure
Indoor/Outdoor use	Indoor use

litle	Contributing Scenario [CS]
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	20 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	54 h
	- 240
	days per year
Technical conditions and measures	Local exhaust ventilation - efficiency of at least
to control dispersion from source to wards the worker	80%
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection
	For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	
Title	Contributing Scenario (CS)
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	80 %
Physical form of product	liquid
Vapour pressure	42.7 hPa
	20 °C
Exposure duration	
	240
Ose frequency	<= 240 davs per vear
Technical conditions and measures to control dispersion from source	Local exhaust ventilation - efficiency of at least
towards the worker	
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection
health evaluation	For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indooruse
Title	Contributing Scenario (CS)
Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion,
Covers concentrations up to	20 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h
Use frequency	<= 240 days per year
Technical conditions and measures	l ocal exhaust ventilation - efficiency of at least
to control dispersion from source	80%
towards the worker	
Conditions and measures related to	Respiratory protection not applicable
personal protection, hydiene and	Wear suitable gloves (tested to EN374), coverall and eve protection
health evaluation	For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
/limit releases, dispersion and	
exposure	

Version 1

Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use

Section 3 - Exposure estimation

Environmental exposure

Environmental release category(ies)

ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8d - Wide dispersive outdoor use of processing aids in open systems

ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.812
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m³	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/cm3	0.812
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.812
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions

outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title
Version
Product Name
Revision Date
Sector(s) of use

ES14 - Use as a processing aid 1 Formic Acid 75% 12-Feb-2015 SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU5 - Manufacture of textiles, leather, fur SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC2 - Formulation of preparations (mixtures)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

ERC5 - Industrial use resulting in inclusion into or onto a matrix

ERC6b - Industrial use of reactive processing aids

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure	
Title	Contributing Scenario [CS]
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	>4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% (PROC 2)
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2 (PROC 1),480 cm2(PROC 2)
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure
Indoor/Outdoor use	Indoor use

Title	Contributing Scongrig ICS1	
	Contributing Scenario [CS]	
Process category(les)	PROC3 - Use in closed batch process (synthesis or formulation)	
	arises	
Covers concentrations up to		
Physical form of product	Liquid	
	42.7 IF d	
	> 4 n/day	
	<= 240 days per week	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%	
Conditions and measures related to	Respiratory protection not applicable	
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection	
health evaluation	For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	240 cm2 (PROC 3), 480 cm2 (PROC 4).	
Remarks	Palm of one hand	
	PROC3 - Use in closed batch process (synthesis or formulation) Palm of both hands PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	
Indoor/Outdoor use	Indoor use	
Title	Contributing Scenario [CS]	
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	
Covers concentrations up to	80 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	54 h/day	
	- 240	
	days per vear	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	480 cm2	
Remarks	Palm of both hands	
Indoor/Outdoor use	Indoor use	
Title	Contributing Scenario [CS]	
Process category(ies)	PROC6 - Calendaring operations	
Covers concentrations up to	80 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	> 4 h/day	
Use frequency	<= 240 days per year	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%	
Conditions and measures related to personal protection, hygiene and	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection	

health evaluation	For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
/limit releases, dispersion and			
exposure			
Covers skin contact area up to	960 cm2		
Remarks	Both hands		
Indoor/Outdoor use	Indoor use		
	•		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC7 - Industrial spraying		
Covers concentrations up to	30 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h		
Use frequency	<= 240		
	davs per vear		
Conditions and measures related to	Wear a respirator providing a minimum efficiency of		
personal protection, hygiene and	95% alt. LEV 95%		
health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection		
	For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
limit releases, dispersion and			
exposure			
Covers skin contact area up to	1500 cm2		
Remarks	Hands and forearms		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to		
	vessels/large containers at non dedicated facilities		
Covers concentrations up to	80 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
Use frequency	<= 240		
	days per year		
Technical conditions and measures	Local exhaust ventilation - efficiency of at least		
to control dispersion from source	90%		
towards the worker			
Conditions and measures related to	Respiratory protection not applicable		
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection		
health evaluation	For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
/limit releases, dispersion and			
Covers skin contact area up to			
Remarks	Both hands		
Indoor/Outdoor use	Indoor use		
T :41 -	Or a tribution of Constraint (CO)		
Process category(les)	PROC8b - I ranster of substance or preparation (charging/discharging) from/to		
O			
Covers concentrations up to	100 %		
Physical form of product			
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
Use frequency	<= 240		
	days per year		
Technical conditions and measures	Local exhaust ventilation - efficiency of at least		
to control dispersion from source	97%		
towards the worker			
Conditions and measures related to	Respiratory protection not applicable		
personal protection, hygiene and	vvear suitable gloves (tested to EN374), coverall and eye protection		

health evaluation	For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
/limit releases, dispersion and			
exposure			
Covers skin contact area up to	480 cm2		
Remarks	Palm of both hands		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)		
Covers concentrations up to	80 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
Use frequency	<= 240		
	days per year		
Technical conditions and measures to control dispersion from source	Local exhaust ventilation - efficiency of at least 90%		
towards the worker			
Conditions and measures related to	Respiratory protection not applicable		
personal protection, hygiene and health evaluation	view suitable gloves (lested to $EN3/4$), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
/limit releases, dispersion and exposure			
Covers skin contact area up to	480 cm2		
Remarks	Palm of both hands		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC10 - Roller application or brushing		
Covers concentrations up to	100 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	> 4 h/day		
Use frequency	<= 240		
	days per year		
Conditions and measures related to	Wear a respirator providing a minimum efficiency of		
personal protection, hygiene and	95% all. LEV 95% Wear suitable gloves (tested to EN374), coverall and eve protection		
	For further specification, refer to section 8 of the SDS		
Organisational measures to prevent	No specific measures identified		
/limit releases, dispersion and			
exposure			
Covers skin contact area up to	960 cm2		
Remarks	Both hands		
Indoor/Outdoor use	Indoor use		
Title	Contributing Scenario [CS]		
Process category(ies)	PROC13 - Treatment of articles by dipping and pouring		
	PROC14 - Production of preparations or articles by tableting, compression, extrusion,		
	pelettising		
Covers concentrations up to	80 %		
Physical form of product			
vapour pressure	42.7 NPa		
I emperature vapour pressure			
Exposure duration	> 4 h/day		
Use frequency	<= 240 dava per veer		
Technical conditions and measure	uays per year		
to control dispersion from source	Local exhaust ventilation - eniciency of at least		
towards the worker			
Conditions and measures related to	Respiratory protection not applicable		

personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and	No specific measures identified
exposure	4000
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100 %
Physical form of product	Liguid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240
	days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2
Remarks	Palm of one hand
Indoor/Outdoor use	Indoor use
	Contributing Scenario [CS]
Process category(les)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	2.5 %
Physical form of product	
	42.7 NPa
Exposure duration	
	> 4 1/0dy
Use nequency	davs per vear
Technical conditions and measures to control dispersion from source towards the worker	None
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	1980 cm2
Remarks	Whole body
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies)

ERC2 - Formulation of preparations (mixtures)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

ERC5 - Industrial use resulting in inclusion into or onto a matrix

ERC6b - Industrial use of reactive processing aids

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	0.039 mg/m ³	0.002
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m³	0.203
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/kg bw/day	0.508
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.406
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 6	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 6	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/cm3	0.812
Contributing Scenario [CS] PROC 7	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.234 mg/m ³	0.762
Contributing Scenario [CS] PROC 7	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	14.469 mg/m ³	0.762
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.894 mg/m ³	0.304
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	5.788 mg/m ³	0.304
Contributing Scenario [CS]	Worker - inhalative,	Used ECETOC TRA	7.717 mg/m ³	0.812

PROC 9	long-term - local and systemic	model		
Contributing Scenario [CS] PROC 9	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 10	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m³	0.508
Contributing Scenario [CS] PROC 10	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m³	0.508
Contributing Scenario [CS] PROC 13	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.812
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	1.929 mg/m ³	0.203
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.203
Contributing Scenario [CS] PROC 19	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.411 mg/m ³	0.254
Contributing Scenario [CS] PROC 19	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.254

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES15 - Professional: Use as a processing aid 1 Formic Acid 75% 12-Feb-2015 SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

ERC2 - Formulation of preparations (mixtures)

ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8d - Wide dispersive outdoor use of processing aids in open systems

ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

ERC10a - Wide dispersive outdoor use of long-life articles and materials with low release

ERC11a - Wide dispersive indoor use of long-life articles and materials with low release

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure			
Title Contributing Scenario [CS]			
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure		
Covers concentrations up to	100 %		
Physical form of product	Liquid		
Vapour pressure	42.7 hPa		
Temperature vapour pressure	20 °C		
Exposure duration	>4 h/day		
Use frequency	<= 240 days per year		
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80% (PROC 2)		
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS		
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified		
Covers skin contact area up to	240 cm2 (PROC 1),480 cm2(PROC 2)		
Remarks	Palm of one hand PROC1 - Use in closed process, no likelihood of exposure Palm of both hands PROC2 - Use in closed, continuous process with occasional controlled exposure		

Indoor/Outdoor use	Indoor use
Title	Contributing Scenario ICS
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	80 % (PROC 3) 40% (PROC 4)
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240 days per week
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80%
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
/limit releases, dispersion and exposure	
Covers skin contact area up to	240 cm2 (PROC 3), 480 cm2 (PROC 4).
Remarks	Palm of one hand
	PROC3 - Use in closed batch process (synthesis or formulation)
	Paim of both hands PROC4 - Use in batch and other process (synthesis) where opportunity for exposure
	arises
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	20 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
l emperature vapour pressure	
Exposure duration	> 4 h/day
Use frequency	< = 240 davs per vear
Technical conditions and measures	l ocal exhaust ventilation - efficiency of at least
to control dispersion from source towards the worker	80%
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and	No specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	20 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source	Local exhaust ventilation - efficiency of at least 80%
towards the worker	

-	
Conditions and measures related to personal protection, hygiene and	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eve protection
health evaluation	For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and	No specific measures identified
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	80 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240
	days per year
Technical conditions and measures to control dispersion from source	Local exhaust ventilation - efficiency of at least 90%
towards the worker	
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection
health evaluation	For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and	No other specific measures identified
exposure	
Covers skin contact area up to	480 cm2
Remarks	Paim of both hands
Indoor/Outdoor use	lindoor use
Titlo	Contributing Scoparia (CS)
Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling
i locess calegory(les)	line including weighing)
Covers concentrations up to	20 %
Covers concentrations up to Physical form of product	20 % Liquid
Covers concentrations up to Physical form of product Vapour pressure	20 % Liquid 42.7 hPa
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure	20 % Liquid 42.7 hPa 20 °C
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration	20 % Liquid 42.7 hPa 20 °C > 4 h/day
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year Local exhaust ventilation - efficiency of at least 80%
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year Local exhaust ventilation - efficiency of at least 80% Respiratory protection not applicable
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year Local exhaust ventilation - efficiency of at least 80% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year Local exhaust ventilation - efficiency of at least 80% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified 480 cm2 Palm of both hands Indoor use
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies)	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year Local exhaust ventilation - efficiency of at least 80% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified 480 cm2 Palm of both hands Indoor use Contributing Scenario [CS] PROC10 - Roller application or brushing
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year Local exhaust ventilation - efficiency of at least 80% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified 480 cm2 Palm of both hands Indoor use Contributing Scenario [CS] PROC10 - Roller application or brushing 25 %
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240 days per year Local exhaust ventilation - efficiency of at least 80% Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS No specific measures identified 480 cm2 Palm of both hands Indoor use Contributing Scenario [CS] PROC10 - Roller application or brushing 25 % Liquid
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure	20 % Liquid 42.7 hPa 20 °C > 4 h/day <= 240
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure	Initial and a structure
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration	Initial and the second seco
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency	Initial and the second seco
Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency Technical conditions and measures to control dispersion from source towards the worker Conditions and measures related to personal protection, hygiene and health evaluation Organisational measures to prevent /limit releases, dispersion and exposure Covers skin contact area up to Remarks Indoor/Outdoor use Title Process category(ies) Covers concentrations up to Physical form of product Vapour pressure Temperature vapour pressure Exposure duration Use frequency	Initial regime Initial regim Initial

personal protection, hygiene and health evaluation	95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	80 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures	Local exhaust ventilation - efficiency of at least
to control dispersion from source towards the worker	80%
Conditions and measures related to	Wear a respirator providing a minimum efficiency of
personal protection, hygiene and health evaluation	95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
/limit releases, dispersion and exposure	
Covers skin contact area up to	1500 cm2
Remarks	Hands and forearms
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC13 - Treatment of articles by dipping and pouring PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	20 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240 days per year
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	480 cm2
Remarks	Palm of both hands
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240 days per year

Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	240 cm2
Remarks	Palm of one hand
Indoor/Outdoor use	Indoor use
Title	Contributing Scenario [CS]

1100	
Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	2.5 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240
	days per year
Technical conditions and measures to control dispersion from source towards the worker	None
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	1980 cm2
Remarks	Whole body
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies)

ERC2 - Formulation of preparations (mixtures)

ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8d - Wide dispersive outdoor use of processing aids in open systems

ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

ERC10a - Wide dispersive outdoor use of long-life articles and materials with low release

ERC11a - Wide dispersive indoor use of long-life articles and materials with low release

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC	TRA model		
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 1	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	0.019 mg/m³	0.002
Contributing Scenario [CS] PROC 1	Worker - inhalative, short-term - local and	Used ECETOC TRA model	0.039 mg/m³	0.002

	systemic			
Contributing Scenario [CS] PROC 2	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 2	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 3	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 3	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 4	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 4	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 8a	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 8b	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717mg/m ³	0.812
Contributing Scenario [CS] PROC 8b	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 9	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 9	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 10	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	2.411 mg/m ³	0.254
Contributing Scenario [CS] PROC 10	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.254
Contributing Scenario [CS] PROC 11	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 11	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 13	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 14	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812

Contributing Scenario [CS] PROC 15	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	3.858 mg/m ³	0.406
Contributing Scenario [CS] PROC 15	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.406
Contributing Scenario [CS] PROC 19	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m³	0.508
Contributing Scenario [CS] PROC 19	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m³	0.508

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

TitleEaVersion1Product NameFeRevision Date12Sector(s) of useSiProduct category(ies)PePePe	 S16 - Consumer use: as a processing aid ormic Acid 75% 2-Feb-2015 U21 - Consumer uses: Private households (= general public = consumers) C23 - Leather tanning, dye, finishing, impregnation and care products C32 - Polymer preparations and compounds C34 - Textile dyes, finishing and impregnating products
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Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)

Not applicable

Remarks

Not relevant since not classified as dangerous for the environment.

Control of consumer exposure	
Title	Contributing Scenario [CS]
Product (sub) category(ies)	PC32 - Polymer preparations and compounds
Covers concentrations up to	< 2 %
Physical form of product	Liquid
Vapour pressure	42.71 hPa
Temperature vapour pressure	20°C
Amounts used	25 mL
Exposure duration	240 min
Use frequency	2 days per week
Exposure duration	240 min
Use in room with a volume of minimum	58 m3
Minimum room ventilation rate for handling/application (air changes per hour)	0.5 l/h
Title	Contributing Scenario [CS]
Product (sub) category(ies)	PC23 - Leather tanning, dye, finishing, impregnation and care products PC34 - Textile dyes, finishing and impregnating products
Covers concentrations up to	< 2 %
Physical form of product	Liquid
Vapour pressure	42.71 hPa
Temperature vapour pressure	20°C
Amounts used	0.75 g/s
Exposure duration	240 min

Exposure duration	240 min
Use in room with a volume of minimum	58 m3
Minimum room ventilation rate for handling/application (air changes per hour)	0,5 l/h

Environmental exposure

Environmental release category(ies) Not applicable

Remarks

Not relevant since not classified as dangerous for the environment.

Control of consumer exposure

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The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Title	Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)	Calculation method
Contributing Scenario [CS] PC 32	PC32 - Polymer preparations and compounds	Consumer - inhalative, long-term - local and systemic	0.6 mg/m³	0.063	
Contributing Scenario [CS] PC 32	PC32 - Polymer preparations and compounds	Consumer - inhalative, short-term - local and systemic	3.7 mg/m ³	0.195	
Contributing Scenario [CS] PC 23 PC 34	PC23 - Leather tanning, dye, finishing, impregnation and care products PC34 - Textile dyes, finishing and impregnating products	Consumer - inhalative, long-term - local and systemic	0.004 mg/m³	0.0004	
Contributing Scenario [CS] PC 23 PC 34	PC23 - Leather tanning, dye, finishing, impregnation and care products PC34 - Textile dyes, finishing and impregnating products	Consumer - inhalative, short-term - local and systemic	0.09 mg/m³	0.005	

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES17 - Professional use: in animal nutrition 1 Formic Acid 75% 12-Feb-2015 SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Liquid

Environmental release category(ies)

ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8b - Wide dispersive indoor use of reactive substances in open systems

Remarks

Physical form of product

Not relevant since not classified as dangerous for the environment.

Control of worker exposure		
Title	Contributing Scenario [CS]	
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	
Covers concentrations up to	20 %	
Physical form of product	Liquid	
Vapour pressure	42.7 hPa	
Temperature vapour pressure	20 °C	
Exposure duration	> 4 h/day	
Use frequency	< = 240 days per year	
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80%	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified	
Covers skin contact area up to	480 cm2	
Remarks	Palm of both hands	
Indoor/Outdoor use	Indoor use	
Title	Contributing Scenario [CS]	
Process category(ies)	PROC10 - Roller application or brushing	
Covers concentrations up to	80 %	

Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240
	days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	960 cm2
Remarks	Both hands
Indoor/Outdoor use	Indoor use

Title	Contributing Scenario [CS]
Process category(ies)	PROC11 - Non industrial spraying PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	10 % (PROC 11) 80% (PROC 13)
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified
Covers skin contact area up to	1500 cm2 (PROC 11), 480 cm2 (PROC 13).
Remarks	Hands and forearms PROC11 - Non industrial spraying Palm of both hands PROC13 - Treatment of articles by dipping and pouring
Indoor/Outdoor use	Indoor use

Title	Contributing Scenario [CS]
Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	5 %
Physical form of product	Liquid
Vapour pressure	42.7 hPa
Temperature vapour pressure	20 °C
Exposure duration	> 4 h/day
Use frequency	<= 240
	days per year
Technical conditions and measures	None
to control dispersion from source	
Conditions and measures related to	Respiratory protection not applicable
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection
health evaluation	For further specification, refer to section 8 of the SDS
Organisational measures to prevent	No specific measures identified
limit releases, dispersion and	
exposure	
Covers skin contact area up to	1980 cm2
Indoor/Outdoor use	Indoor use

Environmental exposure

Environmental release category(ies)

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8b - Wide dispersive indoor use of reactive substances in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC TRA model			
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.812
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 10	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 10	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 11	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508
Contributing Scenario [CS] PROC 11	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m³	0.508
Contributing Scenario [CS] PROC 13	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812
Contributing Scenario [CS] PROC 19	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	6.752 mg/m³	0.711
Contributing Scenario [CS] PROC 19	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	13.504 mg/m ³	0.711

Section 4 - Guidance to check compliance with the exposure scenario

Product Name

Formic Acid 75%

Exposure scenario

Section 1 - Title

Title Version Product Name Revision Date Sector(s) of use ES18 - Professional use: as a preserving agent 1 Formic Acid 75% 12-Feb-2015 SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Liquid

Environmental release category(ies)

ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8b - Wide dispersive indoor use of reactive substances in open systems

Remarks

Physical form of product

Not relevant since not classified as dangerous for the environment.

Control of worker exposure				
Title	Contributing Scenario [CS]			
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)			
Covers concentrations up to	20 %			
Physical form of product	Liquid			
Vapour pressure	42.7 hPa			
Temperature vapour pressure	20 °C			
Exposure duration	> 4 h/day			
Use frequency	< = 240 days per year			
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 80%			
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection not applicable Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS			
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified			
Covers skin contact area up to	480 cm2			
Remarks	Palm of both hands			
Indoor/Outdoor use	Indoor use			
Title	Contributing Scenario [CS]			
Process category(ies)	PROC10 - Roller application or brushing			
Covers concentrations up to	80 %			

Vapour pressure	42.7 hPa			
Temperature vapour pressure	20 °C			
Exposure duration	> 4 h/day			
Use frequency	<= 240			
	days per year			
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS			
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified			
Covers skin contact area up to	960 cm2			
Remarks	Both hands			
Indoor/Outdoor use	Indoor use			

Title	Contributing Scenario [CS]				
Process category(ies)	PROC11 - Non industrial spraying PROC13 - Treatment of articles by dipping and pouring				
Covers concentrations up to	10 % (PROC 11) 80% (PROC 13)				
Physical form of product	Liquid				
Vapour pressure	42.7 hPa				
Temperature vapour pressure	20 °C				
Exposure duration	> 4 h/day				
Use frequency	<= 240 days per year				
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% alt. LEV 95% Wear suitable gloves (tested to EN374), coverall and eye protection For further specification, refer to section 8 of the SDS				
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified				
Covers skin contact area up to	1500 cm2 (PROC 11), 480 cm2 (PROC 13).				
Remarks	Hands and forearms PROC11 - Non industrial spraying Palm of both hands PROC13 - Treatment of articles by dipping and pouring				
Indoor/Outdoor use	Indoor use				

Title	Contributing Scenario [CS]			
Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available			
Covers concentrations up to	5 %			
Physical form of product	Liquid			
Vapour pressure	42.7 hPa			
Temperature vapour pressure	20 °C			
Exposure duration	> 4 h/day			
Use frequency	<= 240			
	days per year			
Technical conditions and measures	None			
to control dispersion from source				
Conditions and measures related to	Respiratory protection not applicable			
personal protection, hygiene and	Wear suitable gloves (tested to EN374), coverall and eye protection			
health evaluation	For further specification, refer to section 8 of the SDS			
Organisational measures to prevent	No specific measures identified			
limit releases, dispersion and				
exposure				
Covers skin contact area up to	1980 cm2			
Indoor/Outdoor use	Indoor use			

Environmental exposure

Environmental release category(ies)

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8b - Wide dispersive indoor use of reactive substances in open systems

Remarks

Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method	Used ECETOC TRA model				
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)	
Contributing Scenario [CS] PROC 5	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m³	0.812	
Contributing Scenario [CS] PROC 5	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812	
Contributing Scenario [CS] PROC 10	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812	
Contributing Scenario [CS] PROC 10	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812	
Contributing Scenario [CS] PROC 11	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	4.823 mg/m ³	0.508	
Contributing Scenario [CS] PROC 11	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	9.646 mg/m ³	0.508	
Contributing Scenario [CS] PROC 13	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	7.717 mg/m ³	0.812	
Contributing Scenario [CS] PROC 13	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	15.433 mg/m ³	0.812	
Contributing Scenario [CS] PROC 19	Worker - inhalative, long-term - local and systemic	Used ECETOC TRA model	6.752 mg/m³	0.711	
Contributing Scenario [CS] PROC 19	Worker - inhalative, short-term - local and systemic	Used ECETOC TRA model	13.504 mg/m ³	0.711	

Section 4 - Guidance to check compliance with the exposure scenario