

## **Annex: Exposure Scenarios**

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### **1. Short title of exposure scenario**

Manufacture of substance, Distribution of substance, Formulation & (re)packing of substances and mixtures

SU3; SU3, SU8, SU9; ERC1, ERC2, ERC4, ERC6a, ERC6b; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC15

### Control of exposure and risk management measures

Contributing exposure scenario	
<b>Use descriptors covered</b>	ERC1: Manufacture of substances As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
<b>Use descriptors covered</b>	ERC2: Formulation of preparations As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
<b>Use descriptors covered</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
<b>Use descriptors covered</b>	ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
<b>Use descriptors covered</b>	ERC6b: Industrial use of reactive processing aids As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
Operational conditions	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 100\%$

Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Wear suitable face shield Use of suitable respiratory protection is recommended.	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 100\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear	

chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	

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## 2. Short title of exposure scenario

Use in chemical synthesis

SU3; SU3, SU10; ERC1, ERC2, ERC5, ERC6a, ERC6b, ERC6d, ERC7; PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC16, PROC23

### Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC1: Manufacture of substances As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC2: Formulation of preparations As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC5: Industrial use resulting in inclusion into or onto a matrix As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

	As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
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<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC6b: Industrial use of reactive processing aids As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC7: Industrial use of substances in closed systems. As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial

<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 100 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor

<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	

<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative

	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Wear suitable face shield Use of suitable respiratory protection is recommended.	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 100\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 100\%$

Physical state	Liquid, low fugacity
Process temperature	90 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Room size	1,000 m <sup>3</sup>
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Wear suitable respiratory protection.	Effectiveness: 60 %
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	2.85 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.986
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	

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### 3. Short title of exposure scenario

Manufacturing of cleaning and maintenance products

SU3; SU10; ERC2, ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC15

### Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC2: Formulation of preparations As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 100\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative

	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Wear suitable face shield Use of suitable respiratory protection is recommended.	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 100 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	

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#### 4. Short title of exposure scenario

Production of pharmaceutical products, Beverage packaging  
SU3; SU3; ERC4, ERC8a; PROC1, PROC7, PROC8a, PROC8b, PROC10, PROC15

## Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8a: Wide dispersive indoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 10\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment

	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use suitable chemically resistant gloves. Wear suitable face shield	
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 10\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Room size	1,000 m <sup>3</sup>
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment Worker - dermal
Assessment method	Stoffenmanager v4.0 Worker - inhalative, long-term - systemic
Exposure estimate	0.75 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.26
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Qualitative assessment Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	

For scaling see: <https://www.stoffenmanager.nl/default.aspx>

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	15 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Local exhaust ventilation	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	

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## 5. Short title of exposure scenario

Use in Oilfield drilling and production operations, Use in Metal surface treatment  
SU3; SU3; ERC4, ERC5, ERC6a, ERC6b, ERC7, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5,  
PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18

## Control of exposure and risk management measures

<b>Contributing exposure scenario</b>
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<b>Use descriptors covered</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
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<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC5: Industrial use resulting in inclusion into or onto a matrix As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC6b: Industrial use of reactive processing aids As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC7: Industrial use of substances in closed systems. As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8d: Wide dispersive outdoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid

	Content: $\geq 0\%$ - $\leq 10\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Local exhaust ventilation	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Qualitative assessment
	Worker - contact with eyes
	Worker - inhalative
	Exposure is considered negligible.
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 10\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Room size	1,000 m <sup>3</sup>
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs	

followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Local exhaust ventilation	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	0.34 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.12
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	

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## 6. Short title of exposure scenario

Use in/as Formulation

SU3; SU3, SU10; ERC2, ERC4; PROC5, PROC8b, PROC9, PROC15

## Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC2: Formulation of preparations As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles As no environmental hazard was identified no

	environmental-related exposure assessment and risk characterization was performed.
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<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). 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). PROC15: Use a laboratory reagent. Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 100 %
Physical state	Liquid, low fugacity
Process temperature	90 °C
Physical state	Solid, Granules or flakes
Process temperature	90 °C
Physical state	pasty
Process temperature	90 °C
Duration and Frequency of activity	480 min 3 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Local exhaust ventilation	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal

PROC5, PROC9, PROC15	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalative, long-term - systemic
Exposure estimate	2.00 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.69
PROC8b	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalative, long-term - systemic
Exposure estimate	0.60 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.2
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	

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## 7. Short title of exposure scenario

Use for Electroplating

SU3; SU3; ERC4, ERC5; PROC7, PROC13, PROC15

### Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC5: Industrial use resulting in inclusion into or onto a matrix As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 35 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week

Indoor/Outdoor	Indoor
Room size	1,000 m3
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Local exhaust ventilation	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	1.78 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.61
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	PROC13: Treatment of articles by dipping and pouring. PROC15: Use a laboratory reagent. Use domain: industrial
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 35 %
Physical state	Liquid, low fugacity
Process temperature	90 °C
Duration and Frequency of activity	480 min 5 days per week

Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Local exhaust ventilation	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
PROC13	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalative, long-term - systemic
Exposure estimate	1.4 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.48
PROC15	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalative, long-term - systemic
Exposure estimate	0.24 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.08
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Wear suitable face shield Use of suitable respiratory protection is recommended.	

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### 8. Short title of exposure scenario

Agriculture, forestry, fishery

SU22; SU1; ERC8a, ERC8b; PROC1, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13

### Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8a: Wide dispersive indoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8b: Wide dispersive indoor use of reactive substances in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: professional

<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 70\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor

<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	

<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use suitable chemically resistant gloves. Wear suitable face shield	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories

	Use domain: professional
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 70 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Room size	100 m3
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Wear suitable respiratory protection.	Effectiveness: 80 %
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	2.20 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.76
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: professional

<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 25 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Room size	100 m3
Indoor/Outdoor	Outdoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	2.82 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.97
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	

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### 9. Short title of exposure scenario

Road and construction applications

SU22; SU22; ERC8f; PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13

### Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: professional
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 100 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Indoor/Outdoor	Outdoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment

	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: professional
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 100 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Room size	100 m <sup>3</sup>
Indoor/Outdoor	Outdoor
<b>Risk Management Measures</b>	
Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place. Ensure use of long-handled tools (longer than 30 cm).	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Wear suitable respiratory protection.	Effectiveness: 80 %
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	1.34 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.46
	The exposure estimate represents the 90th percentile of

	the exposure distribution.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: professional
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 25 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Room size	100 m3
Indoor/Outdoor	Outdoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	2.82 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.97

	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	

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### 10. Short title of exposure scenario

Use in Surface treatment products, Use in Cleaning Agents  
 SU22; SU22; ERC4, ERC8a, ERC8b, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC19

### Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8a: Wide dispersive indoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8b: Wide dispersive indoor use of reactive substances in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8d: Wide dispersive outdoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
<b>Contributing exposure scenario</b>	

<b>Use descriptors covered</b>	All relevant process categories Use domain: professional
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 10\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Indoor/Outdoor	Outdoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use suitable chemically resistant gloves. Wear suitable face shield	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: professional
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: $\geq 0\%$ - $\leq 10\%$
Physical state	Liquid, low fugacity
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Room size	100 m <sup>3</sup>

Indoor/Outdoor	Outdoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines. Ensure minimization of manual phases	
Ensure mechanical ventilation is in place.	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
Assessment method	Stoffenmanager v4.0
	Worker - inhalative, long-term - systemic
Exposure estimate	0.71 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.25
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Wear suitable face shield Use of suitable respiratory protection is recommended.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="https://www.stoffenmanager.nl/default.aspx">https://www.stoffenmanager.nl/default.aspx</a>	

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### 11. Short title of exposure scenario

Use in laboratories  
SU22; SU22; ERC8a; PROC15

### Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8a: Wide dispersive indoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	All relevant process categories Use domain: professional
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 100 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	60 min 5 days per week
Indoor/Outdoor	Indoor
<b>Risk Management Measures</b>	
Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Ensure minimization of manual phases	
Use suitable eye protection. Wear chemically resistant gloves in combination with specific activity training Wear suitable coveralls to prevent exposure to the skin.	
Risk Management Measures are based on qualitative risk characterisation.	
Local exhaust ventilation	
<b>Exposure estimate and reference to its source</b>	
Assessment method	Qualitative assessment
	Worker - dermal
	Worker - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Worker - contact with eyes
<b>Additional good practice advice</b>	
Use of suitable respiratory protection is recommended. Wear suitable face shield	

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## 12. Short title of exposure scenario

maintenance, Cleaning agents  
SU21; SU21; ERC8a, ERC8b; PC3, PC4, PC24, PC35

## Control of exposure and risk management measures

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8a: Wide dispersive indoor use of processing aids in

	open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
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<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	ERC8b: Wide dispersive indoor use of reactive substances in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Bathroom cleaning (spray), Surface cleaning
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 25 min 52 days per year
Duration and Frequency of activity	Application duration: 20 min
Room size	10 m <sup>3</sup>
Ventilation rate per hour	2
Exposed skin area	Palm of one hand (215 cm <sup>2</sup> )
	Amount per use 30 g
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	0.0009 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0006
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0505 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.035
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	

<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Bathroom cleaning (liquid), Mixing and loading
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 0.75 min 4 days per year
Duration and Frequency of activity	Application duration: 0.3 min
Room size	1 m <sup>3</sup>
Ventilation rate per hour	2
Exposed skin area	Palm of one hand (215 cm <sup>2</sup> )
Release area	Amount per use 500 g 20 cm <sup>2</sup>
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	< 0.001 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	< 0.001
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0036 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0025
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	
<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Bathroom cleaning (liquid), Surface cleaning
<b>Operational conditions</b>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Bathroom cleaning (liquid), Surface cleaning
<b>Operational conditions</b>	

Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 25 min 4 days per year
Duration and Frequency of activity	Application duration: 20 min
Room size	10 m <sup>3</sup>
Ventilation rate per hour	2
Exposed skin area	Both hands and forearms (1900 cm <sup>2</sup> )
	Amount per use 260 g
Release area	6400 cm <sup>2</sup>
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	0.0003 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0002
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0162 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0113
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Toilet cleaners (acid)
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 3 min 260 days per year
Duration and Frequency of activity	Application duration: 2 min
Room size	2.5 m <sup>3</sup>
Ventilation rate per hour	2
Exposed skin area	Palm of one hand (215 cm <sup>2</sup> )

	Amount per use 1,000 g
Release area	750 cm <sup>2</sup>
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	< 0.001 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	< 0.001
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0005 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0004
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC3: Air care products., PC3_1: Subcategory: Air care, instant action (aerosol sprays)
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 1 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 15 min 4 uses per day
Duration and Frequency of activity	Spray duration: 0.17 min
Room size	10 m <sup>3</sup>
Ventilation rate per hour	0.5
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	0.0007 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0005
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0175 mg/m <sup>3</sup>

Risk Characterization Ratio (RCR)	0.012
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC3: Air care products., PC3_2: Subcategory: Air care, continuous action (solid and liquid)
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 1 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 480 min 365 days per year
Room size	58 m3
Ventilation rate per hour	0.5
Exposed skin area	Fingertips (36 cm2)
	Amount per use 40 g
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	0.433 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.3
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	1.3 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.9
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC4: Anti-Freeze and De-icing products., PC4_2: Subcategory: Pouring into radiator
<b>Operational conditions</b>	

Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 15 min 104 uses per day
Room size	1 m3
Ventilation rate per hour	0.5
Exposed skin area	Palm of one hand (215 cm <sup>2</sup> )
	Amount per use 500 g
Release area	20 cm <sup>2</sup>
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	< 0.001 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	< 0.001
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	< 0.001 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	< 0.001
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC4: Anti-Freeze and De-icing products., PC4_1: Subcategory: Washing car window
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 240 min 104 uses per day
Duration and Frequency of activity	Application duration: 20 min
Room size	58 m3
Ventilation rate per hour	0.5
Exposed skin area	Palm of one hand (215 cm <sup>2</sup> )
	Amount per use 400 g
Release area	1900 cm <sup>2</sup>

<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	0.0048 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0034
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.029 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.02
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC4: Anti-Freeze and De-icing products., Spray
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 60 min 365 days per year
Duration and Frequency of activity	Spray duration: 0.41 min
Room size	15 m <sup>3</sup>
Ventilation rate per hour	2.5
	Amount per use 500 g
Release area	20 cm <sup>2</sup>
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	< 0.001 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	< 0.001
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0005 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0004

Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC4: Anti-Freeze and De-icing products., Spray
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 60 min 365 days per year
Duration and Frequency of activity	Application duration: 10 min 365 days per year
Room size	15 m3
Ventilation rate per hour	2.5
Exposed skin area	Palm of one hand (215 cm <sup>2</sup> )
	Amount per use 16.2 g
Release area	20 cm <sup>2</sup>
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	0.0002 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0001
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0047 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0033
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC24: Lubricants, Greases and Release Products, PC24_3: Subcategory: Sprays

<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 3 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 15 min 50 days per year
Duration and Frequency of activity	Spray duration: 15 min
Room size	10 m <sup>3</sup>
Ventilation rate per hour	0.5
Release area	20 cm <sup>2</sup>
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	0.0114 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0079
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	1.1 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.76
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC24: Lubricants, Greases and Release Products, PC24_2: Subcategory: Pastes, PC13_1, PC24_1: Subcategory: Liquids
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 3 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 15 min 50 days per year
Duration and Frequency of activity	Spray duration: 15 min
Exposed skin area	Both hands (860 cm <sup>2</sup> )
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin

	contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
	Consumer - inhalative
	Exposure is considered negligible.
Assessment method	Qualitative assessment
	Consumer - dermal
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

<b>Contributing exposure scenario</b>	
<b>Use descriptors covered</b>	SU21: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Bathroom cleaning (spray), Spray - General surface application
<b>Operational conditions</b>	
Concentration of the substance	methanesulphonic acid Content: >= 0 % - <= 10 %
Physical state	Liquid, low fugacity
Duration and Frequency of activity	Exposure duration: 25 min 52 days per year
Duration and Frequency of activity	Spray duration: 1.5 min
Room size	10 m3
Ventilation rate per hour	2
Exposed skin area	Both hands (860 cm <sup>2</sup> )
<b>Risk Management Measures</b>	
Consumer Measures	Regular cleaning of work area Ensure that direct skin contact is avoided. Use suitable eye protection. Use of suitable gloves.
<b>Exposure estimate and reference to its source</b>	
Assessment method	ConsExpo v4.1
	Consumer - inhalative, long-term - systemic
Exposure estimate	< 0.001 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	< 0.001
Assessment method	Qualitative assessment
	Consumer - dermal
Assessment method	ConsExpo v4.1
	Consumer - inhalative, short-term - systemic
Exposure estimate	0.0036 mg/m <sup>3</sup>
Risk Characterization Ratio (RCR)	0.0025
<b>Additional good practice advice</b>	
Avoid using without gloves.	
<b>Guidance to Downstream Users</b>	
For scaling see: <a href="http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp">http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp</a>	

