

**Annex to the extended Safety Data Sheet (eSDS)**

Version:1.0

## Annex for ethyl acetate

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**Exposure Scenario IV.****Adhesives and sealants industrial use, Uses in coatings, Spraying****I.1 List of use descriptors**

<b>Sector(s) of Use</b>	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>Product categories [PC]:</b>	not relevant.
<b>Name of contributing environmental scenario and corresponding ERC:</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
<b>List of names of contributing worker scenarios and corresponding PROCs:</b>	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p>

**I.2.1 Contributing exposure scenario controlling environmental exposure**

<b>Environmental Release Categories [ERC]:</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 25 %.
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<b>Physical state</b>	liquid
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**Amounts used**

<b>Regional use tonnage (tons/year):</b>	10.000
<b>Fraction of EU tonnage used in region:</b>	0,1
<b>Fraction of regional tonnage used locally:</b>	0,1

**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	300 days/year

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	18.000
<b>Local freshwater dilution factor:</b>	10
<b>Local marine water dilution factor:</b>	100

**Other given operational conditions affecting environmental exposure**

type	Emission days (days/year):	Emission factors			Remarks
		Air	Soil	Water	
Continuous release	300	90 %	0,1 %	2 %	

<b>Maximum allowable site tonnage (MSafe) (kg/d):</b>	Daily amount per site: 333 kg
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**Risk management measures (RMM)****Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	Waste gas treatment by thermal oxidation., Waste gas treatment by catalytic oxidation. Effectiveness: 80 %.
<b>Soil</b>	0%
<b>Water</b>	0%
<b>Sediment:</b>	0%

Remarks:	not relevant
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### I.2.2 Contributing exposure scenario controlling worker exposure

Process Categories:	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p>
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### Product characteristics

Concentration of the substance in a mixture:	Covers percentage substance in the product up to 25 %. Covers percentage substance in the product up to 100 % (PROC1, 2, 8a, 8b).
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Physical form of the product:	liquid
Vapour pressure:	98 hPa
Process temperature:	not relevant

### Amounts used

This information is not available.
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### Frequency and duration of use

	Use duration:	Frequency of use:	Remarks
Hours per shift	> 4 h	240 days/year	PROC1, PROC2, PROC7
Hours per shift	1 - 4 h	240 days/year	PROC8a, PROC8b

### Human factors not influenced by risk management

Palm of both hands	1500 cm <sup>2</sup>
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### Other given operational conditions affecting workers exposure

Area of use	room size:	temperature:	Ventilation rate	Remarks
Indoor use.	not relevant.		5	Minimum room ventilation rate for handling/application (air changes per hour)
Outdoor use.	not relevant.		not relevant.	Use in closed process, no likelihood of exposure

**Risk management measures (RMM)****Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet

**Technical conditions and measures to control dispersion from source towards the worker**

Industrial:	with local exhaust ventilation Effectiveness: 95 %.Except PROC1
	Spraying should be carried out in a vented laminar spray booth or using respiratory Personal Protective Equipment.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Industrial:	Wear suitable gloves (tested to EN374) and eye protection.
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See chapter 8 of the safety data sheet (Personal protection equipment)

**Additional good practice advice beyond the REACH CSA**

Use suitable eye protection.

**I.3 Exposure Estimation****Environment:****Adhesives and sealants industrial use, Uses in coatings, Spraying:****ERC4: Industrial use of processing aids in processes and products, not becoming part of articles:**

Compartment	PEC		Method	Remarks
STP	0,39 mg/l	0,0006	ECETOC TRA	
freshwater	0,04 mg/l	0,16	ECETOC TRA	
freshwater sediment	0,05 mg/kg wet weight	0,2	ECETOC TRA	
Soil	0,01 mg/kg wet weight	0,03	ECETOC TRA	
marine water	0,004 mg/l	0,16	ECETOC TRA	
marine sediment	0,0005 mg/kg wet weight	0,033	ECETOC TRA	

**Health:****Adhesives and sealants industrial use, Uses in coatings, Spraying:****PROC1: Use in closed process, no likelihood of exposure:**

	Exposure level		Method	Remarks
Dermal	0,34 mg/kg bw/day	0,0054	ECETOC TRA	
inhalation	0,03 mg/m <sup>3</sup>	0,0000	ECETOC TRA	

**PROC2: Use in closed, continuous process with occasional controlled exposure:**

	Exposure level		Method	Remarks
Dermal	0,13 mg/kg bw/day	0,0022	ECETOC TRA	
inhalation	18,35 mg/m <sup>3</sup>	0,025	ECETOC TRA	

**PROC7: Industrial spraying:**

	Exposure level		Method	Remarks
Dermal	2,14 mg/kg bw/day	0,034	ECETOC TRA	
inhalation	55,06 mg/m <sup>3</sup>	0,075	ECETOC TRA	

**PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities:**

	Exposure level		Method	Remarks
Dermal	0,14 mg/kg bw/day	0,0022	ECETOC TRA	
inhalation	55,06 mg/m <sup>3</sup>	0,075	ECETOC TRA	

**PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities:**

	Exposure level		Method	Remarks
Dermal	0,69 mg/kg bw/day	0,011	ECETOC TRA	
inhalation	9,91 mg/m <sup>3</sup>	0,014	ECETOC TRA	

**I.4 Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

For further information, please also consult the Internet site: Downstream Users  
[http://guidance.echa.europa.eu/downstream\\_users\\_en.htm](http://guidance.echa.europa.eu/downstream_users_en.htm)

**Exposure Scenario V.****Adhesives and sealants industrial use, Uses in coatings, No spraying****II.1 List of use descriptors**

<b>Sector(s) of Use</b>	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>Product categories [PC]:</b>	not relevant.
<b>Name of contributing environmental scenario and corresponding ERC:</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
<b>List of names of contributing worker scenarios and corresponding PROCs:</b>	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p>

	<p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
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### II.2.1 Contributing exposure scenario controlling environmental exposure

<b>Environmental Release Categories [ERC]:</b>	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
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#### Product characteristics

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 25 %. Covers percentage substance in the product up to 100 % (PROC1, 2, 8a, 8b).
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<b>Physical state</b>	not relevant
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#### Amounts used

<b>Regional use tonnage (tons/year):</b>	55.000
<b>Fraction of EU tonnage used in region:</b>	0,1
<b>Fraction of regional tonnage used locally:</b>	0,1

#### Frequency and duration of use

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	300 days/year

#### Environment factors not influenced by risk management

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	18.000
<b>Local freshwater dilution factor:</b>	10
<b>Local marine water dilution factor:</b>	100

#### Other given operational conditions affecting environmental exposure

type	Emission days (days/year):	Emission factors			Remarks
		Air	Soil	Water	
Continuous release	300	90 %	0,1 %	2 %	

<b>Maximum allowable site tonnage (MSafe) (kg/d):</b>	Daily amount per site: 1.833 kg
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**Risk management measures (RMM)****Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	Waste gas treatment by thermal oxidation., Waste gas treatment by catalytic oxidation. Effectiveness: > 87 %.
<b>Soil</b>	0%
<b>Water</b>	0%
<b>Sediment:</b>	0%
<b>Remarks:</b>	not relevant

**II.2.2 Contributing exposure scenario controlling worker exposure**

<b>Process Categories:</b>	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 25 %.
<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	98 hPa
<b>Process temperature:</b>	not relevant

**Amounts used**

not applicable

**Frequency and duration of use**

	Use duration:	Frequency of use:	Remarks
Hours per shift	1 - 4 h	240 days/year	PROC8a, PROC8b
Hours per shift	> 4 h	240 days/year	

**Human factors not influenced by risk management**

Palm of both hands	960 cm <sup>2</sup>
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**Other given operational conditions affecting workers exposure**

Area of use	room size:	temperature:	Ventilation rate	Remarks
Outdoor use.	not relevant.		not relevant.	Use in closed process, no likelihood of exposure
Indoor use.	not relevant.		5	Minimum room ventilation rate for handling/application (air changes per hour)

**Risk management measures (RMM)****Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet
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**Technical conditions and measures to control dispersion from source towards the worker**

Industrial:	with local exhaust ventilation Effectiveness: 95 %.Except PROC1
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**Conditions and measures related to personal protection, hygiene and health evaluation**

:	Wear suitable gloves (tested to EN374) and eye protection.
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See chapter 8 of the safety data sheet (Personal protection equipment)
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**II.3 Exposure Estimation****Environment:**

**Adhesives and sealants industrial use, Uses in coatings, No spraying:**



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

Compartment	PEC		Method	Remarks
STP	0,39 mg/l	0,0006	ECETOC TRA	
freshwater	0,04 mg/l	0,16	ECETOC TRA	
freshwater sediment	0,05 mg/kg wet weight	0,2	ECETOC TRA	
Soil	0,01 mg/kg wet weight	0,03	ECETOC TRA	
marine water	0,004 mg/l	0,16	ECETOC TRA	
marine sediment	0,0005 mg/kg wet weight	0,033	ECETOC TRA	

**Health:**

**Adhesives and sealants industrial use, Uses in coatings, No spraying:**

**PROC1: Use in closed process, no likelihood of exposure:**

	Exposure level		Method	Remarks
Dermal	0,34 mg/kg bw/day	0,005	ECETOC TRA	
inhalation	0,03 mg/m <sup>3</sup>	0,0000	ECETOC TRA	

**PROC2: Use in closed, continuous process with occasional controlled exposure:**

	Exposure level		Method	Remarks
Dermal	0,13 mg/kg bw/day	0,0022	ECETOC TRA	
inhalation	18,35 mg/m <sup>3</sup>	0,025	ECETOC TRA	

**PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities:**

	Exposure level		Method	Remarks
Dermal	0,14 mg/kg bw/day	0,0022	ECETOC TRA	
inhalation	55,06 mg/m <sup>3</sup>	0,075	ECETOC TRA	

**PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities:**

	Exposure level		Method	Remarks
Dermal	0,69 mg/kg bw/day	0,011	ECETOC TRA	
inhalation	9,91 mg/m <sup>3</sup>	0,014	ECETOC TRA	

**PROC10: Roller application or brushing:**

	Exposure level		Method	Remarks
Dermal	1,37 mg/kg bw/day	0,022	ECETOC TRA	
inhalation	55,06 mg/m <sup>3</sup>	0,075	ECETOC TRA	

**PROC13: Treatment of articles by dipping and pouring:**

	Exposure level		Method	Remarks
Dermal	0,69 mg/kg bw/day	0,011	ECETOC TRA	
inhalation	55,06 mg/m <sup>3</sup>	0,075	ECETOC TRA	

## II.4 Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

For further information, please also consult the Internet site: Downstream Users  
[http://guidance.echa.europa.eu/downstream\\_users\\_en.htm](http://guidance.echa.europa.eu/downstream_users_en.htm)

## Exposure Scenario VI.

### Adhesives and sealants professional use, Uses in coatings

#### III.1 List of use descriptors

<b>Sector(s) of Use</b>	SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
<b>Product categories [PC]:</b>	not relevant.
<b>Name of contributing environmental scenario and corresponding ERC:</b>	ERC8a: Wide dispersive indoor use of processing aids in open systems  ERC8d: Wide dispersive outdoor use of processing aids in open systems
<b>List of names of contributing worker scenarios and corresponding PROCs:</b>	PROC1: Use in closed process, no likelihood of exposure  PROC2: Use in closed, continuous process with occasional controlled exposure  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  PROC10: Roller application or brushing  PROC11: Non industrial spraying  PROC13: Treatment of articles by dipping and pouring  PROC19: Hand-mixing with intimate contact and only PPE available

#### III.2.1 Contributing exposure scenario controlling environmental exposure

<b>Environmental Release Categories [ERC]:</b>	ERC8a: Wide dispersive indoor use of processing aids in open systems  ERC8d: Wide dispersive outdoor use of processing aids in open systems
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 100 % (unless stated differently).
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<b>Physical state</b>	not relevant
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**Amounts used**

<b>Regional use tonnage (tons/year):</b>	5.000
<b>Fraction of EU tonnage used in region:</b>	0,1

**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	365 days/year

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	18.000
<b>Local freshwater dilution factor:</b>	10
<b>Local marine water dilution factor:</b>	100

**Other given operational conditions affecting environmental exposure****Risk management measures (RMM)****Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	0%
<b>Soil</b>	0%
<b>Water</b>	Dispose of waste in accordance with environmental legislation., Do not allow to enter into ground-water, surface water or drains.
<b>Sediment:</b>	0%
<b>Remarks:</b>	not relevant

### III.2.2 Contributing exposure scenario controlling worker exposure

<b>Process Categories:</b>	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC19: Hand-mixing with intimate contact and only PPE available</p>
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### Product characteristics

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 25 %.
<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	98 hPa
<b>Process temperature:</b>	not relevant

### Amounts used

not applicable
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### Frequency and duration of use

	Use duration:	Frequency of use:	Remarks
Hours per shift	> 4 h	< 300 days/year	PROC1, PROC2
Hours per shift	1 - 4 h	< 300 days/year	PROC10, PROC11, PROC13
Hours per shift	15 min - 1 h	< 300 days/year	PROC8a, PROC8b, PROC19

### Human factors not influenced by risk management

<b>Palm of both hands</b>	1500 cm <sup>2</sup>
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### Other given operational conditions affecting workers exposure

Area of use	room size:	temperature:	Ventilation rate	Remarks
Indoor use.	not relevant.		2	Minimum room ventilation rate for handling/application (air changes per hour)
Outdoor use.	not relevant.		not relevant.	Use in closed process, no likelihood of exposure

**Risk management measures (RMM)****Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet

**Technical conditions and measures to control dispersion from source towards the worker**

Professional:	with local exhaust ventilation Effectiveness: 80 %.
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**Conditions and measures related to personal protection, hygiene and health evaluation**

Professional:	Wear suitable gloves (tested to EN374) and eye protection., Respiratory protection is required for not sufficiently ventilated working places and during the spraying processing.
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See chapter 8 of the safety data sheet (Personal protection equipment)

**Additional good practice advice beyond the REACH CSA**

Use suitable eye protection and gloves.

**III.3 Exposure Estimation****Environment:****Adhesives and sealants professional use, Uses in coatings:****ERC8a: Wide dispersive indoor use of processing aids in open systems:**

Compartment	PEC		Method	Remarks
STP	0,081 mg/l	0,0001	ECETOC TRA	
freshwater	0,011 mg/l	0,042	ECETOC TRA	
freshwater sediment	0,015 mg/kg wet weight	0,052	ECETOC TRA	
Soil	0,0002 mg/kg wet weight	0,0007	ECETOC TRA	
marine water	0,0011 mg/l	0,0416	ECETOC TRA	
marine sediment	0,0014 mg/kg wet weight	0,0051	ECETOC TRA	

**ERC8d: Wide dispersive outdoor use of processing aids in open systems:**

Compartment	PEC		Method	Remarks
STP	1,37 mg/l	0,0021	ECETOC TRA	
freshwater	0,14 mg/l	0,54	ECETOC TRA	
freshwater sediment	0,19 mg/kg wet weight	0,66	ECETOC TRA	
Soil	0,0002 mg/kg wet weight	0,0008	ECETOC TRA	
marine water	0,014 mg/l	0,54	ECETOC TRA	
marine sediment	0,019 mg/kg wet weight	0,066	ECETOC TRA	

**Health:****Adhesives and sealants professional use, Uses in coatings:****PROC1: Use in closed process, no likelihood of exposure:**

	Exposure level		Method	Remarks
Dermal	0,34 mg/kg bw/day	0,0054	ECETOC TRA	
inhalation	0,15 mg/m <sup>3</sup>	0,0002	ECETOC TRA	

**PROC2: Use in closed, continuous process with occasional controlled exposure:**

	Exposure level		Method	Remarks
Dermal	0,14 mg/kg bw/day	0,0022	ECETOC TRA	
inhalation	22,03 mg/m <sup>3</sup>	0,03	ECETOC TRA	

**PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities:**

	Exposure level		Method	Remarks
Dermal	0,14 mg/kg bw/day	0,0022	ECETOC TRA	
inhalation	44,05 mg/m <sup>3</sup>	0,06	ECETOC TRA	

**PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities:**

	Exposure level		Method	Remarks
Dermal	0,69 mg/kg bw/day	0,011	ECETOC TRA	
inhalation	11,01 mg/m <sup>3</sup>	0,015	ECETOC TRA	

**PROC10: Roller application or brushing:**

	Exposure level		Method	Remarks
Dermal	1,37 mg/kg bw/day	0,02	ECETOC TRA	
inhalation	132,15 mg/m <sup>3</sup>	0,18	ECETOC TRA	

**PROC11: Non industrial spraying:**

	Exposure level		Method	Remarks
Dermal	2,14 mg/kg bw/day	0,03	ECETOC TRA	
inhalation	264,3 mg/m <sup>3</sup>	0,36	ECETOC TRA	

**PROC13: Treatment of articles by dipping and pouring:**

	<b>Exposure level</b>		<b>Method</b>	<b>Remarks</b>
Dermal	0,69 mg/kg bw/day	0,011	ECETOC TRA	
inhalation	66,08 mg/m <sup>3</sup>	0,091	ECETOC TRA	

**PROC19: Hand-mixing with intimate contact and only PPE available:**

	<b>Exposure level</b>		<b>Method</b>	<b>Remarks</b>
Dermal	14,14 mg/kg bw/day	0,22	ECETOC TRA	
inhalation	44,05 mg/m <sup>3</sup>	0,06	ECETOC TRA	

**III.4 Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

For further information, please also consult the Internet site: Downstream Users  
[http://guidance.echa.europa.eu/downstream\\_users\\_en.htm](http://guidance.echa.europa.eu/downstream_users_en.htm)