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Annex to the extended Safety Data Sheet (eSDS)

Version:1.0

Annex for ethyl acetate

Content

Exposure Scenario IV.

Adhesives and sealants industrial use, Uses in coatings, Spraying

I.1 List of use descriptors

Sector(s) of Use	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Product categories [PC]:	not relevant.

Name of contributing environmental scenario and corresponding ERC:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

List of names of contributing worker scenarios and corresponding PROCs:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC7: Industrial spraying 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

I.2.1 Contributing exposure scenario controlling environmental exposure

Environmental Release Categories [ERC]:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Product characteristics

Concentration of the substance in a mixture:	Covers percentage substance in the product up to 25 %.

Physical state	liquid

Amounts used

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

Frequency and duration of use

Batch process:	not relevant
Continuous process:	300 days/year

Environment factors not influenced by risk management

Flow rate of receiving surface water (m^3/d):	18.000
Local freshwater dilution factor:	10
Local marine water dilution factor:	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 %	

Maximum allowable site tonnage (MSafe) (kg/d):	Daily amount per site: 333 kg

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

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

Remarks:	not relevant

I.2.2 Contributing exposure scenario controlling worker exposure

Process Categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC7: Industrial spraying 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

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).

Physical form of the product:	liquid
Vapour pressure:	98 hPa
Process temperature:	not relevant

Amounts used

This information is not available.

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 cm²

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.

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/m³	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/m³	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/m³	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/m³	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/m³	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

Exposure Scenario V.

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

II.1 List of use descriptors

Sector(s) of Use	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Product categories [PC]:	not relevant.

Name of contributing environmental scenario and corresponding ERC:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

List of names of contributing worker scenarios and corresponding PROCs:	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 PROC13: Treatment of articles by dipping and pouring

II.2.1 Contributing exposure scenario controlling environmental exposure

Environmental Release Categories [ERC]:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

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).

Physical state	not relevant

Amounts used

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

Frequency and duration of use

Batch process:	not relevant
Continuous process:	300 days/year

Environment factors not influenced by risk management

Flow rate of receiving surface water (m^3/d):	18.000
Local freshwater dilution factor:	10
Local marine water dilution factor:	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 %	

Maximum allowable site tonnage (MSafe) (kg/d):	Daily amount per site: 1.833 kg

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

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

II.2.2 Contributing exposure scenario controlling worker exposure

Process Categories:	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 PROC13: Treatment of articles by dipping and pouring

Product characteristics

Concentration of the substance in a mixture:	Covers percentage substance in the product up to 25 %.

Physical form of the product:	liquid
Vapour pressure:	98 hPa
Process temperature:	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 cm²

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

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

Industrial:	with local exhaust ventilation Effectiveness: 95 %.Except PROC1

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

:	Wear suitable gloves (tested to EN374) and eye protection.

See chapter 8 of the safety data sheet (Personal protection equipment)

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/m³	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/m³	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/m³	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/m³	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/m³	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/m³	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

Exposure Scenario VI.

Adhesives and sealants professional use, Uses in coatings

III.1 List of use descriptors

Sector(s) of Use	SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Product categories [PC]:	not relevant.

Name of contributing environmental scenario and corresponding ERC:	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

List of names of contributing worker scenarios and corresponding PROCs:	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.2.1Contributing exposure scenario controlling environmental exposure

Environmental Release Categories [ERC]:	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

Product characteristics

Concentration of the substance in a mixture:	Covers percentage substance in the product up to 100 % (unless stated differently).

Physical state	not relevant

Amounts used

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

Frequency and duration of use

Batch process:	not relevant
Continuous process:	365 days/year

Environment factors not influenced by risk management

Flow rate of receiving surface water (m^3/d):	18.000
Local freshwater dilution factor:	10
Local marine water dilution factor:	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

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

III.2.2Contributing exposure scenario controlling worker exposure

Process Categories:	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

Product characteristics

Concentration of the substance in a mixture:	Covers percentage substance in the product up to 25 %.

Physical form of the product:	liquid
Vapour pressure:	98 hPa
Process temperature:	not relevant

Amounts used

not applicable

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

Palm of both hands	1500 cm²

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 %.

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.

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/m³	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/m³	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/m³	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/m³	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/m³	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/m³	0,36	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	66,08 mg/m³	0,091	ECETOC TRA	

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

	Exposure level		Method	Remarks
Dermal	14,14 mg/kg bw/day	0,22	ECETOC TRA	
inhalation	44,05 mg/m³	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