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Annex to the extended Safety Data Sheet (eSDS)

Version:1.0

Annex for 2-hydroxyethyl-methacrylate

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Exposure Scenario V.

Formulation & (re)packing of substances and mixtures

| 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: | | | |
| List of names of contributing worker scenarios and corresponding PROCs: | PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC5: Mixing or blending in batch processes PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities | | |
| | PROC15: Use as laboratory reagent | | |

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I.2.1 Contributing exposure scenario controlling worker exposure

| Process Categories: | PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) |
|---------------------|--|
| | PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
| | PROC5: Mixing or blending in batch processes |
| | PROC1: Use in closed process, no likelihood of exposure |
| | PROC2: Use in closed, continuous process with occasional controlled exposure |
| | PROC3: Use in closed batch process (synthesis or formulation) |
| | PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises |
| | PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities |
| | PROC15: Use as laboratory reagent |

Product characteristics

| Concentration of the substance in a mixture: | Covers percentage substance in the product up to: 100% |
|--|--|
| | <u>l</u> |

| Physical form of the product: | liquid |
|-------------------------------|--------------|
| Vapour pressure: | not relevant |
| Process temperature: | not relevant |

Amounts used

This information is not available.

Frequency and duration of use

| | Use duration: | Frequency of use: | Remarks | |
|---------------|------------------|-------------------|---------|--|
| Exposure time | > 4 h | 5 days/week | | |

Human factors not influenced by risk management

| Exposed skin surface | 960 cm² PROC8b PROC8a | | |
|----------------------|--|--|--|
| Exposed skin surface | 480 cm² PROC9 PROC5 PROC2 PROC4 | | |
| Exposed skin surface | 240 cm ² PROC1 PROC3 PROC15 | | |

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Other given operational conditions affecting workers exposure

| Area of use | room size: | Temperature : | Ventilation rate | Remarks |
|-------------|------------------|---------------|------------------|---|
| Indoor use | not relevant. | | not relevant. | PROC9, PROC 8b, PROC5, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC15 |

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release

See section 8 of the safety data sheet

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

| PROC9, PROC5, PROC2, PROC3, PROC4, PROC8a, PROC15: | Inhalation.: with local exhaust ventilation Effectiveness: 90 %. |
|--|--|
| PROC8b: | Inhalation.: with local exhaust ventilation Effectiveness: 95 %. |

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

| PROC8b, PROC9, PROC5, PROC2, PROC3, PROC4, PROC8a, PROC15: | eye: Use suitable eye protection. |
|--|---|
| PROC1: | Worker - all relevant routes: If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes. |
| PROC8b, PROC9, PROC5, PROC4, PROC8a: | dermal: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 95 %. |
| PROC2, PROC3, PROC15: | dermal: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90 %. |

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

I.3 Exposure estimation

Environment:

Health:

:

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,6857 mg/kg bw/day | 0,527473 | EASY TRA | |
| Inhalation, systemic, long term | 1,356 mg/m ³ | 0,276662 | EASY TRA | |
| Combined routes, systemic, long-term | 0,8794 mg/kg bw/day | 0,804135 | EASY TRA | |

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PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing):

| | Exposure level | | Method | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,3429 mg/kg | 0,263736 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 2,711 mg/m ³ | 0,553324 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,7302 mg/kg | 0,81706 | EASY TRA | |
| systemic, long-term | bw/day | | | |

PROC5: Mixing or blending in batch processes:

| | g p | | | |
|----------------------------|-------------------------|----------|----------|---------|
| | Exposure level | | Method | Remarks |
| Dermal, systemic, long | 0,6857 mg/kg | 0,527473 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 1,898 mg/m ³ | 0,387327 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,9568 mg/kg | 0,914799 | EASY TRA | |
| systemic, long-term | bw/day | | | |

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,0343 mg/kg bw/day | 0,026374 | EASY TRA | |
| Inhalation, systemic, long term | 0,0542 mg/m ³ | 0,011066 | EASY TRA | |
| Combined routes, systemic, long-term | 0,0420 mg/kg bw/day | 0,03744 | EASY TRA | |

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

| | Exposure level | | Method | Remarks |
|----------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,1371 mg/kg | 0,105495 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 0,5423 mg/m ³ | 0,110665 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,2146 mg/kg | 0,216159 | EASY TRA | |
| systemic, long-term | bw/day | | | |

PROC3: Use in closed batch process (synthesis or formulation):

| | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,0686 mg/kg bw/day | 0,052747 | EASY TRA | |
| Inhalation, systemic, long term | 1,6276 mg/m ³ | 0,331994 | EASY TRA | |
| Combined routes, systemic, long-term | 0,3010 mg/kg bw/day | 0,384742 | EASY TRA | |

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises:

| | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,3429 mg/kg bw/day | 0,263736 | EASY TRA | |
| Inhalation, systemic, long term | 2,7119 mg/m ³ | 0,553324 | EASY TRA | |
| Combined routes, systemic, long-term | 0,7302 mg/kg bw/day | 0,81706 | EASY TRA | |

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

| | Exposure level | | Method | Remarks |
|------------------------|----------------|----------|----------|---------|
| Dermal, systemic, long | 0,6857 mg/kg | 0,527473 | EASY TRA | |
| term | bw/day | | | |

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| Inhalation, systemic, long | 1,627 mg/m³ | 0,331994 | EASY TRA |
|----------------------------|--------------|----------|----------|
| term | | | |
| Combined routes, | 0,9181 mg/kg | 0,859467 | EASY TRA |
| systemic, long-term | bw/day | | |

PROC15: Use as laboratory reagent:

| | Exposure level | | Method | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,0343 mg/kg | 0,026374 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 2,711 mg/m ³ | 0,553324 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,4216 mg/kg | 0,579698 | EASY TRA | |
| systemic, long-term | bw/day | | | |

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

This information is not available.

Exposure Scenario VI.

End use as monomer in formulations

| 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: | |
| List of names of contributing worker scenarios and corresponding PROCs: | PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC5: Mixing or blending in batch processes PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC10: Roller application or brushing |

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PROC13: Treatment of articles by dipping and pouring

PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation

PROC12: use of blowing agents in manufacture of foam

PROC15: Use as laboratory reagent

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

II.2.1 Contributing exposure scenario controlling worker exposure

Process Categories:

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

PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC5: Mixing or blending in batch processes

PROC1: Use in closed process, no likelihood of exposure

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

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

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

PROC10: Roller application or brushing

PROC13: Treatment of articles by dipping and pouring

PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation

PROC12: use of blowing agents in manufacture of foam

PROC15: Use as laboratory reagent

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

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Product characteristics

| Concentration of the substance in a mixture: | Covers percentage substance in the product more than 25% (PROC 8B,9,5,1,2,3,4,8A,14,12,15) Covers percentage substance in the product up to 1% (PROC19). Covers percentage substance in the product 5-25 % (PROC10 indoors, 13). Covers percentage substance in the product 1-5% (PROC10 |
|--|--|
| | (outdoors)) (Outdoors) |

| Physical form of the product: | liquid |
|-------------------------------|--------------|
| Vapour pressure: | not relevant |
| Process temperature: | not relevant |

Amounts used

This information is not available.

Frequency and duration of use

| | Use duration: | Frequency of use: | Remarks |
|---------------|---------------|-------------------|--|
| Exposure time | > 4 h | 5 days/week | PROC 8b, PROC9, PROC5, PROC1, PROC2, PROC4, PROC3, PROC8a, PROC13, PROC14, PROC12, PROC15 |
| Exposure time | 15 min | 5 days/week | PROC10 |
| Exposure time | 15 min - 1 h | 5 days/week | PROC19 |

Human factors not influenced by risk management

| Exposed skin surface | 960 cm² PROC8b PROC8a PROC10 |
|----------------------|---|
| Exposed skin surface | 480 cm ² PROC5 PROC2 PROC4 PROC13 PROC14 PROC9 |
| Exposed skin surface | 240 cm ² PROC1 PROC3 PROC15 PROC12 |
| Exposed skin surface | 1980 cm ² PROC19 |

Other given operational conditions affecting workers exposure

| Area of use | room size: | Temperature | Ventilation rate | Remarks |
|-------------------------|------------------|-------------|------------------|--|
| | | 1 | | |
| Indoor use | not relevant. | | not relevant. | PROC 8b, PROC9, PROC5, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC13, PROC14, PROC12, PROC15, PROC19 |
| Indoor and outdoor use. | not relevant. | | not relevant. | PROC10 |

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release

See section 8 of the safety data sheet

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

| PROC5, PROC2, PROC3, PROC4, PROC8a, PROC13, PROC14, PROC12, PROC15, PROC9: | Inhalation.: with local exhaust ventilation Effectiveness: 90 %. |
|--|--|
| PROC8b: | Inhalation.: with local exhaust ventilation Effectiveness: 95 %. |

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

| PROC8b, PROC9, PROC5, PROC2, PROC3, PROC4, PROC8a, PROC15, PROC10, PROC13, PROC19, PROC12, PROC14: | eye: Use suitable eye protection. |
|--|---|
| PROC1: | Worker - all relevant routes: If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes. |
| PROC8b, PROC5, PROC8a, PROC4, PROC10, PROC13, PROC19, PROC9: | dermal: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 95 %. |
| PROC2, PROC3, PROC14, PROC12, PROC15: | dermal: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90 %. |

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

II.3 Exposure estimation

Environment:

Health:

:

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,6857 mg/kg bw/day | 0,527473 | EASY TRA | |
| Inhalation, systemic, long term | 1,356 mg/m ³ | 0,276662 | EASY TRA | |
| Combined routes, systemic, long-term | 0,8793 mg/kg bw/day | 0,804135 | EASY TRA | |

PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing):

| | Exposure level | | Method | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,3428 mg/kg | 0,263736 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 2,711 mg/m ³ | 0,553324 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,7302 mg/kg | 0,81706 | EASY TRA | |
| systemic, long-term | bw/day | | | |

PROC5: Mixing or blending in batch processes:

| | Exposure level | | Method | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,6857 mg/kg | 0,527473 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 1,898 mg/m ³ | 0,387327 | EASY TRA | |

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| term | | | | |
|---------------------|--------------|----------|----------|--|
| Combined routes, | 0,9568 mg/kg | 0,914799 | EASY TRA | |
| systemic, long-term | bw/day | | | |

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,0343 mg/kg bw/day | 0,026374 | EASY TRA | |
| Inhalation, systemic, long term | 0,0542 mg/m ³ | 0,011066 | EASY TRA | |
| Combined routes, systemic, long-term | 0,0420 mg/kg bw/day | 0,03744 | EASY TRA | |

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,1371 mg/kg bw/day | 0,105495 | EASY TRA | |
| Inhalation, systemic, long term | 0,5423 mg/m ³ | 0,110665 | EASY TRA | |
| Combined routes, systemic, long-term | 0,2146 mg/kg bw/day | 0,216159 | EASY TRA | |

PROC3: Use in closed batch process (synthesis or formulation):

| | Exposure level | | Method | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,0686 mg/kg bw/day | 0,052747 | EASY TRA | |
| Inhalation, systemic, long term | 1,627 mg/m³ | 0,331994 | EASY TRA | |
| Combined routes, systemic, long-term | 0,3010 mg/kg bw/day | 0,384742 | EASY TRA | |

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises:

| | Exposure level | | Method | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,3429 mg/kg bw/day | 0,263736 | EASY TRA | |
| Inhalation, systemic, long term | 2,711 mg/m³ | 0,553324 | EASY TRA | |
| Combined routes, systemic, long-term | 0,7301 mg/kg bw/day | 0,81706 | EASY TRA | |

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,6857 mg/kg bw/day | 0,527473 | EASY TRA | |
| Inhalation, systemic, long term | 1,627 mg/m³ | 0,331994 | EASY TRA | |
| Combined routes, systemic, long-term | 0,9181 mg/kg bw/day | 0,859467 | EASY TRA | |

PROC15: Use as laboratory reagent:

| | Exposure level | | Method | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,0343 mg/kg bw/day | 0,026374 | EASY TRA | |
| Inhalation, systemic, long term | 2,711 mg/m³ | 0,553324 | EASY TRA | |
| Combined routes, systemic, long-term | 0,4216 mg/kg bw/day | 0,579698 | EASY TRA | |

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PROC10: Roller application or brushing:

| | Exposure level | | Method | Remarks |
|----------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,8229 mg/kg | 0,632967 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 0,9761 mg/m ³ | 0,199197 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,9623 mg/kg | 0,832164 | EASY TRA | |
| systemic, long-term | bw/day | | | |

PROC13: Treatment of articles by dipping and pouring:

| | Exposure level | | Method | Remarks |
|--------------------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,4114 mg/kg bw/day | 0,316484 | EASY TRA | |
| Inhalation, systemic, long term | 3,254 mg/m ³ | 0,663989 | EASY TRA | |
| Combined routes, systemic, long-term | 0,8762 mg/kg bw/day | 0,980472 | EASY TRA | |

PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation:

| | Exposure level | | Method | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,3429 mg/kg | 0,263736 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 2,711 mg/m ³ | 0,553324 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,7301 mg/kg | 0,81706 | EASY TRA | |
| systemic, long-term | bw/day | | | |

PROC12: use of blowing agents in manufacture of foam:

| Kee 121 dee et bie wing agente in manaraetare et ream | | | | |
|---|-------------------------|----------|----------|---------|
| | Exposure level | | Method | Remarks |
| Dermal, systemic, long | 0,0343 mg/kg | 0,026374 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 1,085 mg/m ³ | 0,22133 | EASY TRA | |
| term | | | | |
| Combined routes, systemic, long-term | 0,1892 mg/kg bw/day | 0,247703 | EASY TRA | |

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,7071 mg/kg bw/day | 0,543956 | EASY TRA | |
| Inhalation, systemic, long term | 0,3253 mg/m ³ | 0,066399 | EASY TRA | |
| Combined routes, systemic, long-term | 0,7536 mg/kg bw/day | 0,610355 | EASY TRA | |

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

This information is not available.

Exposure Scenario VII.

Professional end use in formulations

III.1 List of use descriptors

| Sector(s) of Use | SU22: Professional uses: Public domain (administration, |
|------------------|---|
|------------------|---|

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| | _ |
|---|--|
| | education, entertainment, services, craftsmen) |
| | |
| Product categories [PC]: | not relevant. |
| | |
| Name of contributing environmental scenario and corresponding ERC: | |
| | |
| List of names of contributing worker scenarios and corresponding PROCs: | PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
| | PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) |
| | PROC5: Mixing or blending in batch processes |
| | PROC10: Roller application or brushing |
| | PROC13: Treatment of articles by dipping and pouring |
| | PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation |
| | PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities |
| | PROC15: Use as laboratory reagent |
| | PROC19: Hand-mixing with intimate contact and only PPE available |
| | |

III.2.1Contributing exposure scenario controlling worker exposure

| Process Categories: | PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
|---------------------|--|
| | PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) |
| | PROC5: Mixing or blending in batch processes |
| | PROC10: Roller application or brushing |
| | PROC13: Treatment of articles by dipping and pouring |
| | PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation |
| | PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities |
| | PROC15: Use as laboratory reagent |
| | PROC19: Hand-mixing with intimate contact and only PPE available |

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Product characteristics

| Concentration of the substance in a mixture: | Covers percentage substance in the product more than 25% (PROC14, 15) Covers percentage substance in the product up to 5-25% (PROC8b,5,8a,13,9) Covers percentage substance in the product up to 1-5% (PROC10) Covers percentage substance in the product up to 1% |
|--|--|
| | (PROC19). |

| Physical form of the product: | liquid |
|-------------------------------|--------------|
| Vapour pressure: | not relevant |
| Process temperature: | not relevant |

Amounts used

This information is not available.

Frequency and duration of use

| | Use duration: | Frequency of use: | Remarks |
|---------------|---------------|-------------------|------------------------|
| Exposure time | 1 - 4 h | 5 days/week | PROC 8b, PROC15, PROC9 |
| Exposure time | 15 min | 5 days/week | PROC19, PROC8a |
| Exposure time | 15 min - 1 h | 5 days/week | PROC5, PROC10, PROC13, |
| | | | PROC14 |

Human factors not influenced by risk management

| Exposed skin surface | 960 cm² PROC8b PROC8a PROC10 |
|----------------------|-----------------------------------|
| Exposed skin surface | 480 cm² PROC13 PROC14 PROC5 PROC9 |
| Exposed skin surface | 240 cm ² PROC15 |
| Exposed skin surface | 1980 cm ² PROC19 |

Other given operational conditions affecting workers exposure

| Area of use | room size: | Temperature : | Ventilation rate | Remarks |
|-------------------------|------------------|---------------|------------------|---|
| Indoor use | not relevant. | | not relevant. | PROC 8b, PROC9, PROC5, PROC13, PROC14, PROC8a, PROC15 |
| Indoor and outdoor use. | not relevant. | | not relevant. | PROC10, PROC19 |

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release

See section 8 of the safety data sheet

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

| PROC5, PROC8a, PROC13, PROC14, PROC15, PROC9: | Inhalation.: with local exhaust ventilation Effectiveness: 80 %. |
|---|--|
| PROC8b: | Inhalation.: with local exhaust ventilation Effectiveness: 90 %. |

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

| PROC8b, PROC9, PROC5, PROC8a, PROC15, PROC10, PROC13, PROC19, PROC14: | eye: Use suitable eye protection. |
|---|--|
| PROC8b, PROC5, PROC8a, PROC10, PROC13, PROC9, PROC15, PROC14: | dermal: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90 %. |
| PROC19: | dermal: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 95 %. |

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

III.3 Exposure estimation

Environment:

Health:

:

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,8229 mg/kg bw/day | 0,632967 | EASY TRA | |
| Inhalation, systemic, long term | 1,366 mg/m³ | 0,278875 | EASY TRA | |
| Combined routes, systemic, long-term | 1,018 mg/kg bw/day | 0,911842 | EASY TRA | |

PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing):

| | Exposure level | | Method | Remarks |
|--------------------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,4114 mg/kg bw/day | 0,316484 | EASY TRA | |
| Inhalation, systemic, long term | 2,733 mg/m ³ | 0,557751 | EASY TRA | |
| Combined routes, systemic, long-term | 0,8019 mg/kg bw/day | 0,874234 | EASY TRA | |

PROC5: Mixing or blending in batch processes:

| _ | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,8229 mg/kg bw/day | 0,632967 | EASY TRA | |
| Inhalation, systemic, long term | 0,9110 mg/m ³ | 0,185917 | EASY TRA | |
| Combined routes, systemic, long-term | 0,9530 mg/kg bw/day | 0,818884 | EASY TRA | |

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PROC10: Roller application or brushing:

| | Exposure level | | Method | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,5486 mg/kg | 0,421978 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 1,627 mg/m ³ | 0,331994 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,7810 mg/kg | 0,753972 | EASY TRA | |
| systemic, long-term | bw/day | | | |

PROC13: Treatment of articles by dipping and pouring:

| | Exposure level | | Method | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,8229 mg/kg bw/day | 0,632967 | EASY TRA | |
| Inhalation, systemic, long term | 1,301 mg/m³ | 0,265596 | EASY TRA | |
| Combined routes, systemic, long-term | 1,009 mg/kg bw/day | 0,898563 | EASY TRA | |

PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation:

| | Exposure level | | Method | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,3429 mg/kg | 0,263736 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 2,169 mg/m ³ | 0,442659 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,6527 mg/kg | 0,706395 | EASY TRA | |
| systemic, long-term | bw/day | | | |

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

| | Exposure level | | Method | Remarks |
|----------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long | 0,7071 mg/kg | 0,543956 | EASY TRA | |
| term | bw/day | | | |
| Inhalation, systemic, long | 0,4067 mg/m ³ | 0,082999 | EASY TRA | |
| term | | | | |
| Combined routes, | 0,7652 mg/kg | 0,626955 | EASY TRA | |
| systemic, long-term | bw/day | | | |

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

| | Exposure level | | Method | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term | 0,8229 mg/kg bw/day | 0,632967 | EASY TRA | |
| Inhalation, systemic, long term | 1,139 mg/m³ | 0,232396 | EASY TRA | |
| Combined routes, systemic, long-term | 0,9855 mg/kg bw/day | 0,865363 | EASY TRA | |

PROC15: Use as laboratory reagent:

| | , · •g • · · · · | | | | |
|--------------------------------------|-------------------------|----------|----------|---------|--|
| | Exposure level | | Method | Remarks | |
| Dermal, systemic, long term | 0,0343 mg/kg bw/day | 0,026374 | EASY TRA | | |
| Inhalation, systemic, long term | 3,254 mg/m ³ | 0,663989 | EASY TRA | | |
| Combined routes, systemic, long-term | 0,4991 mg/kg bw/day | 0,690362 | EASY TRA | | |

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

This information is not available.

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Exposure Scenario VIII.

This information is not available.

Adhesives and sealants consumer use

| IV.1 List of use descriptors | | | |
|--|--|--|--|
| | | | |
| Sector(s) of Use | SU21: Consumer uses: Private households (= general public = consumers) | | |
| Product categories [PC]: | PC1: Adhesives, sealants | | |
| Name of contributing environmental scenario and corresponding ERC: | | | |
| List of names of contributing consumer scenarios and corresponding PC: | EPC1: Adhesives, sealants | | |
| IV.2.1 Contributing exposure scena | rio controlling consumer exposure | | |
| Product Categories: | PC1: Adhesives, sealants | | |
| Product characteristics | | | |
| Concentration of the substance in a mixture: | 10% | | |
| Physical form of the product: | not relevant | | |
| Vapour pressure: | not relevant | | |
| Process temperature: | not relevant | | |
| Application: | not relevant | | |
| Amounts used | | | |
| This information is not available. | | | |
| Frequency and duration of use | | | |
| Risk management measures (RMM) | | | |
| | | | |

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IV.3Exposure estimation and reference to its source

Environment:

Health:

:

| | Exposure level | | Method | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Combined routes, systemic, long-term | 0,0596 mg/kg bw/day | 0,071747 | EASY TRA | |
| Inhalation, systemic, long term | 0,7353 mg/m ³ | 0,25355 | EASY TRA | |
| Dermal, systemic, long term | 0,1267 mg/kg bw/day | 0,325297 | EASY TRA | |

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

This information is not available.