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

## Human factors not influenced by risk management

| Exposed skin surface | 960 cm <sup>2</sup> PROC8b PROC8a           |  |  |
|----------------------|---|--|--|
| Exposed skin surface | 480 cm <sup>2</sup> PROC9 PROC5 PROC2 PROC4 |  |  |
| Exposed skin surface | 240 cm <sup>2</sup> 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<br>relevant. |               | not relevant.    | PROC9, PROC 8b, PROC5, PROC1,<br>PROC2, PROC3, PROC4, PROC8a,<br>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         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,6857 mg/kg<br>bw/day | 0,527473 | EASY TRA |         |
| Inhalation, systemic, long term      | 1,356 mg/m³            | 0,276662 | EASY TRA |         |
| Combined routes, systemic, long-term | 0,8794 mg/kg<br>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         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,3429 mg/kg<br>bw/day | 0,263736 | EASY TRA |         |
| Inhalation, systemic, long term      | 2,711 mg/m³            | 0,553324 | EASY TRA |         |
| Combined routes, systemic, long-term | 0,7302 mg/kg<br>bw/day | 0,81706  | EASY TRA |         |

PROC5: Mixing or blending in batch processes:

|                            | y                       |          |          |         |
|----------------------------|-------------------------|----------|----------|---------|
| -                          | Exposure level          | RCR      | Method   | Remarks |
| Dermal, systemic, long     | 0,6857 mg/kg            | 0,527473 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 1,898 mg/m <sup>3</sup> | 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           | RCR      | Method   | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,0343 mg/kg<br>bw/day   | 0,026374 | EASY TRA |         |
| Inhalation, systemic, long term      | 0,0542 mg/m <sup>3</sup> | 0,011066 | EASY TRA |         |
| Combined routes, systemic, long-term | 0,0420 mg/kg<br>bw/day   | 0,03744  | EASY TRA |         |

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

|                            | Exposure level           | RCR      | Method   | Remarks |
|----------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,1371 mg/kg             | 0,105495 | EASY TRA |         |
| term                       | bw/day                   |          |          |         |
| Inhalation, systemic, long | 0,5423 mg/m <sup>3</sup> | 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           | RCR      | Method   | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,0686 mg/kg<br>bw/day   | 0,052747 | EASY TRA |         |
| Inhalation, systemic, long term      | 1,6276 mg/m <sup>3</sup> | 0,331994 | EASY TRA |         |
| Combined routes, systemic, long-term | 0,3010 mg/kg<br>bw/day   | 0,384742 | EASY TRA |         |

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

|                                      | Exposure level           | RCR      | Method   | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,3429 mg/kg<br>bw/day   | 0,263736 | EASY TRA |         |
| Inhalation, systemic, long term      | 2,7119 mg/m <sup>3</sup> | 0,553324 | EASY TRA |         |
| Combined routes, systemic, long-term | 0,7302 mg/kg<br>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 | RCR      | Method   | Remarks |
|------------------------|----------------|----------|----------|---------|
| Dermal, systemic, long | 0,6857 mg/kg   | 0,527473 | EASY TRA |         |
| term                   | bw/day         |          |          |         |

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| Inhalation, systemic, long term      | 1,627 mg/m <sup>3</sup> | 0,331994 | EASY TRA |  |
|--------------------------------------|-------------------------|----------|----------|--|
| Combined routes, systemic, long-term | 0,9181 mg/kg<br>bw/day  | 0,859467 | EASY TRA |  |

PROC15: Use as laboratory reagent:

|                            | Exposure level          | RCR      | Method   | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,0343 mg/kg            | 0,026374 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 2,711 mg/m <sup>3</sup> | 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  |   |
|---|---|
| = 100 0. 000 0000   |   |
| 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))  |

| 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,<br>PROC2, PROC4, PROC3, PROC8a,<br>PROC13, PROC14, PROC12,<br>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 cm <sup>2</sup> PROC8b PROC8a PROC10                  |
|----------------------|---|
| Exposed skin surface | 480 cm <sup>2</sup> PROC5 PROC2 PROC4 PROC13 PROC14 PROC9 |
| Exposed skin surface | 240 cm <sup>2</sup> PROC1 PROC3 PROC15 PROC12             |
| Exposed skin surface | 1980 cm <sup>2</sup> PROC19                               |

### Other given operational conditions affecting workers exposure

| Area of use             | room size:       | Temperature | Ventilation rate | Remarks  |
|-------------------------|------------------|-------------|------------------|--|
|                         |                  | 1           |                  |  |
| Indoor use              | not<br>relevant. |             | not relevant.    | PROC 8b, PROC9, PROC5, PROC1,<br>PROC2, PROC3, PROC4, PROC8a,<br>PROC13, PROC14, PROC12,<br>PROC15, PROC19 |
| Indoor and outdoor use. | not<br>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          | RCR      | Method   | Remarks |
|--------------------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,6857 mg/kg<br>bw/day  | 0,527473 | EASY TRA |         |
| Inhalation, systemic, long term      | 1,356 mg/m <sup>3</sup> | 0,276662 | EASY TRA |         |
| Combined routes, systemic, long-term | 0,8793 mg/kg<br>bw/day  | 0,804135 | EASY TRA |         |

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

|                            | Exposure level          | RCR      | Method   | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,3428 mg/kg            | 0,263736 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 2,711 mg/m <sup>3</sup> | 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 | RCR      | Method   | Remarks |
|----------------------------|----------------|----------|----------|---------|
| Dermal, systemic, long     | 0,6857 mg/kg   | 0,527473 | EASY TRA |         |
| term                       | bw/day         |          |          |         |
| Inhalation, systemic, long | 1,898 mg/m³    | 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           | RCR      | Method   | Remarks |
|--------------------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,0343 mg/kg<br>bw/day   | 0,026374 | EASY TRA |         |
| Inhalation, systemic, long term      | 0,0542 mg/m <sup>3</sup> | 0,011066 | EASY TRA |         |
| Combined routes, systemic, long-term | 0,0420 mg/kg<br>bw/day   | 0,03744  | EASY TRA |         |

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

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

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

|                            | Exposure level          | RCR      | Method   | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,0686 mg/kg            | 0,052747 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 1,627 mg/m <sup>3</sup> | 0,331994 | EASY TRA |         |
| term                       |                         |          |          |         |
| Combined routes,           | 0,3010 mg/kg            | 0,384742 | EASY TRA |         |
| systemic, long-term        | bw/day                  |          |          |         |

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

|                                      | Exposure level         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,3429 mg/kg<br>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<br>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         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,6857 mg/kg<br>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<br>bw/day | 0,859467 | EASY TRA |         |

#### PROC15: Use as laboratory reagent:

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

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PROC10: Roller application or brushing:

|                            | Exposure level           | RCR      | Method   | Remarks |
|----------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,8229 mg/kg             | 0,632967 | EASY TRA |         |
| term                       | bw/day                   |          |          |         |
| Inhalation, systemic, long | 0,9761 mg/m <sup>3</sup> | 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:

| the event victiment of anticipe by antipping and pearing. |                        |          |          |         |
|---|------------------------|----------|----------|---------|
|   | Exposure level         | RCR      | Method   | Remarks |
| Dermal, systemic, long term                               | 0,4114 mg/kg<br>bw/day | 0,316484 | EASY TRA |         |
| Inhalation, systemic, long term                           | 3,254 mg/m³            | 0,663989 | EASY TRA |         |
| Combined routes, systemic, long-term                      | 0,8762 mg/kg<br>bw/day | 0,980472 | EASY TRA |         |

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

|                            | Exposure level          | RCR      | Method   | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,3429 mg/kg            | 0,263736 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 2,711 mg/m <sup>3</sup> | 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:

|                            | Exposure level          | RCR      | Method   | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,0343 mg/kg            | 0,026374 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 1,085 mg/m <sup>3</sup> | 0,22133  | EASY TRA |         |
| term                       |                         |          |          |         |
| Combined routes,           | 0,1892 mg/kg            | 0,247703 | EASY TRA |         |
| systemic, long-term        | bw/day                  |          |          |         |

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

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

# 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,<br>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 cm² PROC15                    |
| Exposed skin surface | 1980 cm² PROC19                   |

## Other given operational conditions affecting workers exposure

| Area of use             | room size:       | Temperature : | Ventilation rate | Remarks   |
|-------------------------|------------------|---------------|------------------|---|
| Indoor use              | not<br>relevant. |               | not relevant.    | PROC 8b, PROC9, PROC5, PROC13, PROC14, PROC8a, PROC15 |
| Indoor and outdoor use. | not<br>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,<br>PROC15, PROC10, PROC13, PROC19,<br>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         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,8229 mg/kg<br>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<br>bw/day  | 0,911842 | EASY TRA |         |

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

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

PROC5: Mixing or blending in batch processes:

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

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PROC10: Roller application or brushing:

|                            | Exposure level          | RCR      | Method   | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,5486 mg/kg            | 0,421978 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 1,627 mg/m <sup>3</sup> | 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         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,8229 mg/kg<br>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<br>bw/day  | 0,898563 | EASY TRA |         |

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

|                            | Exposure level          | RCR      | Method   | Remarks |
|----------------------------|-------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,3429 mg/kg            | 0,263736 | EASY TRA |         |
| term                       | bw/day                  |          |          |         |
| Inhalation, systemic, long | 2,169 mg/m <sup>3</sup> | 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           | RCR      | Method   | Remarks |
|----------------------------|--------------------------|----------|----------|---------|
| Dermal, systemic, long     | 0,7071 mg/kg             | 0,543956 | EASY TRA |         |
| term                       | bw/day                   |          |          |         |
| Inhalation, systemic, long | 0,4067 mg/m <sup>3</sup> | 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         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Dermal, systemic, long term          | 0,8229 mg/kg<br>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<br>bw/day | 0,865363 | EASY TRA |         |

PROC15: Use as laboratory reagent:

|                                      | , · · · · · · · · · · · · · · · · · · · |          |          |         |  |
|--------------------------------------|---|----------|----------|---------|--|
|                                      | Exposure level                          | RCR      | Method   | Remarks |  |
| Dermal, systemic, long term          | 0,0343 mg/kg<br>bw/day                  | 0,026374 | EASY TRA |         |  |
| Inhalation, systemic, long term      | 3,254 mg/m <sup>3</sup>                 | 0,663989 | EASY TRA |         |  |
| Combined routes, systemic, long-term | 0,4991 mg/kg<br>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         | RCR      | Method   | Remarks |
|--------------------------------------|------------------------|----------|----------|---------|
| Combined routes, systemic, long-term | 0,0596 mg/kg<br>bw/day | 0,071747 | EASY TRA |         |
| Inhalation, systemic, long term      | 0,7353 mg/m³           | 0,25355  | EASY TRA |         |
| Dermal, systemic, long term          | 0,1267 mg/kg<br>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.