

Current version: 3.0.1, issued: 28.02.2024 Reglaced version: 3.0.0, issued: 30.01.2024 Region: GB

SECTION 1: Title and scope of exposure scenario (ES)

1.1 Title exposure scenario (ES)

ES2 Distribution of the substance including substance transfers - industrial use

1.2 Scope of exposure scenario (ES)

ES Type Worker Exposure Scenario for substance/mixture

Life cycle stage Industrial end use

Product identifier

Trade name Methanol Substance name methanol

REACH registration no. 01-2119433307-44

CAS no. 67-56-1 EC no. 200-659-6

Use descriptors

| Sector of use (SU) | | |
|--------------------------|--------------|--|
| Category | Code | Use description |
| Main user group | SU3 | Industrial uses |
| Sector of end-use | SU8 | Manufacture of bulk, large scale chemicals (including |
| | | petroleum products) |
| | SU9 | Manufacture of fine chemicals |
| Environmental release ca | tegory (ERC) | |
| Category | Code | Use description |
| Environmental release | ERC1 | Manufacture of substances |
| category (ERC) | | |
| | ERC2 | Formulation of preparations |
| Process category (PROC) |) | |
| Category | Code | Use description |
| Process category (PROC) | 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 |
| | PROC8b | Transfer of substance or preparation (charging/discharging) |
| | | from/to vessels/large containers at dedicated facilities |
| | PROC9 | Transfer of substance or preparation into small containers |
| | | (dedicated filling line, including weighing) |

Other information

Distribution as such is not a use under REACH. However, if distribution includes substance transfers (e.g. refilling) it is a use.

SECTION 2: Operational conditions (OC) and risk management measures (RMM) controlling exposure towards environment and men

2.1 Product characteristics

| State of aggregation | |
|-----------------------|-------|
| liquid | |
| Reference temperature | 25 °C |

| Dustiness | |
|----------------|--|
| Not applicable | |



Current version: 3.0.1, issued: 28.02.2024 Reglaced version: 3.0.0, issued: 30.01.2024 Region: GB

| Vapour pressure | | |
|-----------------------|--------|-----|
| Value | 169.27 | hPa |
| Reference temperature | 25 | °C |

Other information

The efficiency of a risk management measure is a theoretical value. The efficiency describes to which extend (in percent) the calculated exposure can be diminished by applying a certain measure. If the described operational conditions and risk management measures are fulfilled by a downstream user, the efficiency as highlighted in the ES can be applied. A downstream user might check whether the efficiency of the LEV or general ventilation corresponds to his site

For further instructions related to "Personal protective equipment" please refer to section 8 of the Safety Data Sheet.

2.2 Contributing scenario controlling environmental exposure

| Affected environmental release category (ERC) | | | | |
|---|------|-----------------------------|--|--|
| Category | Code | Use description | | |
| Environmental release category (ERC) | ERC1 | Manufacture of substances | | |
| | ERC2 | Formulation of preparations | | |

Risk management measures (RMM) controlling environmental exposure

Technical measures and efficiency of the risk managment measures (in exposure calculation model)

No special measures are required.

Organisational measures

No special measures are required.

Measures related to wastewater treatment and efficiency of the risk managment measures (in exposure calculation model)

No special measures are required.

Measures related to waste treatment

For further instructions related to waste management please refer to section 13 of the Safety Data Sheet.

| Further measures | |
|------------------|-----------------------------------|
| ERC1, ERC2 | No special measures are required. |

2.3 Contributing scenario controlling worker exposure

| Affected process category | y (PROC) | |
|---------------------------|----------|--|
| Category | Code | Use description |
| Process category (PROC) | 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 |
| | PROC8b | Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
| | PROC9 | Transfer of substance or preparation into small containers (dedicated filling line, including weighing) |



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Operational conditions controlling worker exposure

| Concentration of su | bstance | | |
|---------------------|---------|---------|---------|
| | PROC1 | PROC2 | PROC3 |
| Value | ≤ 100 % | ≤ 100 % | ≤ 100 % |
| | PROC4 | PROC8a | PROC8b |
| Value | ≤ 100 % | ≤ 100 % | ≤ 100 % |
| | PROC9 | | |
| Value | ≤ 100 % | | |

| Amounts used | | | |
|--------------|--------------|--------------|--------------|
| | PROC1 | PROC2 | PROC3 |
| | Not relevant | Not relevant | Not relevant |
| | PROC4 | PROC8a | PROC8b |
| | Not relevant | Not relevant | Not relevant |
| | PROC9 | | |
| | Not relevant | | |

| Use conditions | | | | | | | | | |
|------------------|------|--------|-----------|------|--------|-----------|------|--------|-----------|
| | PRO | C1 | | PRO | OC2 | | PRO | OC3 | |
| Location of use | Indo | or use | | Indo | or use | | Indo | or use | |
| Duration of use | ≥ | 8 | hours/day | ٧I | 8 | hours/day | VI | 8 | hours/day |
| Frequency of use | N | 240 | days/year | ≤ | 240 | days/year | ≤ | 240 | days/year |
| | PRO | C4 | | PRO | OC8a | | PRO | OC8b | |
| Location of use | Indo | or use | | Indo | or use | | Indo | or use | |
| Duration of use | ≥ | 8 | hours/day | ٧I | 8 | hours/day | VI | 8 | hours/day |
| Frequency of use | ≥ | 240 | days/year | ٧I | 240 | days/year | VI | 240 | days/year |
| | PRO | C9 | | | | | | | |
| Location of use | Indo | or use | | | | | | | |
| Duration of use | ≤ | 8 | hours/day | | | | | | |
| Frequency of use | ≤ | 240 | days/year | | | | | | |

Risk management measures (RMM) controlling worker exposure

| Technical measures and | efficiency of the risk managmen | nt measures (in exposure calculation model) |
|------------------------|---------------------------------|--|
| PROC1 | Measures | No special measures are required. |
| PROC2 | Measures | Handle only at a place with local exhaust system (or another appropriate exhaust). |
| | Efficiency (%) | 90 |
| PROC3 | Measures | Handle only at a place with local exhaust system (or another appropriate exhaust). |
| | Efficiency (%) | 90 |
| PROC4 | Measures | Handle only at a place with local exhaust system (or another appropriate exhaust). |
| | Efficiency (%) | 90 |
| PROC8a | Measures | Handle only at a place with local exhaust system (or another appropriate exhaust). |
| | Efficiency (%) | 90 |
| PROC8b | Measures | Handle only at a place with local exhaust system (or another appropriate exhaust). |
| | Efficiency (%) | 95 |
| PROC9 | Measures | Handle only at a place with local exhaust system (or another appropriate exhaust). |
| | Efficiency (%) | 90 |



Current version: 3.0.1, issued: 28.02.2024 Region: 3.0.0, issued: 30.01.2024 Region: GB

Organisational measures

No special measures are required.

Personal protective equipment and efficiency of the risk managment measures (in exposure calculation model)

| Hand protection | | |
|-----------------|----------------|---------------------------------------|
| PROC1 | Measures | No special measures are required. |
| PROC2 | Measures | Wear suitable gloves tested to EN374. |
| | Efficiency (%) | 80 |
| PROC3 | Measures | Wear suitable gloves tested to EN374. |
| | Efficiency (%) | 80 |
| PROC4 | Measures | Wear suitable gloves tested to EN374. |
| | Efficiency (%) | 80 |
| PROC8a | Measures | Wear suitable gloves tested to EN374. |
| | Efficiency (%) | 80 |
| PROC8b | Measures | Wear suitable gloves tested to EN374. |
| | Efficiency (%) | 80 |
| PROC9 | Measures | Wear suitable gloves tested to EN374. |
| | Efficiency (%) | 80 |

SECTION 3: Exposure estimation and reference to sources

3.1 Advice

The Risk Characterization Ratio (RCR) is the quotient of predicted human/environmental exposure and the related DNEL/PNEC. Exposure is calculated based on exposure models as stated below. If RCR ≤ 1 a use is considered as safe under operational conditions and risk management measures as specified in the exposure szenario.

For DNEL/PNEC values please refer to section 8 of the safety data sheet.

3.2 Exposure estimation - Environment

| Affected environmental release category (ERC) | | |
|---|------|-----------------------------|
| Category | Code | Use description |
| Environmental release category (ERC) | ERC1 | Manufacture of substances |
| | ERC2 | Formulation of preparations |

| Used exposure estimation model for calculation of environmental exposure | | |
|--|---|--|
| Used exposure estimation model | As no environmental hazard was identified no environmental-related exposure | |
| | assessment and risk characterization was performed. | |

3.3 Exposure estimation - Worker

| Affected process category (PROC) | | |
|----------------------------------|--------|--|
| Category | Code | Use description |
| Process category (PROC) | 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 |
| | PROC8b | Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
| | PROC9 | Transfer of substance or preparation into small containers (dedicated filling line, including weighing) |

| Used exposure estimation model for calculation of worker exposure | | |
|---|---------------------------------|--|
| Used exposure estimation model | EasyTRA Version 3.0 | |
| Link to exposure estimation tool | EASY TRA: http://www.easytra.de | |



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| Risk characterisation ratio (RCR) | | | | |
|-----------------------------------|---------------------|------------|--------|-------|
| | Exposure estimation | inhalative | dermal | total |
| PROC1 | Long-term systemic | 0.000 | 0.001 | 0.001 |
| | Short-term systemic | 0.000 | 0.001 | 0.001 |
| PROC2 | Long-term systemic | 0.012 | 0.007 | 0.019 |
| | Short-term systemic | 0.051 | 0.007 | 0.058 |
| PROC3 | Long-term systemic | 0.026 | 0.003 | 0.029 |
| | Short-term systemic | 0.103 | 0.003 | 0.106 |
| PROC4 | Long-term systemic | 0.051 | 0.034 | 0.085 |
| | Short-term systemic | 0.205 | 0.034 | 0.239 |
| PROC8a | Long-term systemic | 0.128 | 0.068 | 0.196 |
| | Short-term systemic | 0.257 | 0.068 | 0.325 |
| PROC8b | Long-term systemic | 0.038 | 0.068 | 0.106 |
| | Short-term systemic | 0.077 | 0.068 | 0.145 |
| PROC9 | Long-term systemic | 0.103 | 0.034 | 0.137 |
| | Short-term systemic | 0.205 | 0.034 | 0.239 |

SECTION 4: Guidance to DU to evaluate whether he works inside the boundaries set by the ES

4.1 Recommendations and advice

Recommendations and general advice

- For additional instructions relating to adaptation of conditions of use in view of a scaling, pls. see the "ECHA Guidance for downstream users" http://echa.europa.eu/regulations/reach/downstream-users
If a downstream user uses the substance/preparation differently than stated in the ES (different operational conditions and/or risk management measures), he has the possibility to vary certain parameters of the exposure assessment.
With the help of easy calculations he can check whether he still operates under safe circumstances. This process is called Scaling.

Scaling advice

Type of ventilation

If the type of ventilation at the use site of a downstream user (DU) differs from the instructions in the ES, a linear correlation between the RCR (Inhalation) and the type of ventilation exists. Following scaling factors (f) apply: General ventilation (< 3 air changes per hour) =1; good general ventilation (3 to 5 air changes per hour, corresponds to outdoor use) = 0,7; enhanced general ventilation (> 5 air changes per hour) = 0,3.

RCR (DU) = f(DU) * RCR (as stated in ES) / f (type of ventilation stated in ES)

In the same manner a scaling for the efficiency of the local extract ventilation (LEV) can by applied.

Duration of use

If the duration of the use by a worker at a downstream user (DU) site differs from the instructions in the ES, a linear correlation between the RCR (Inhalation) and the duration of use exist. Following scaling factors (f) apply: duration > 4 hours/day = 1; duration: 1-4 hours/day = 0,6; duration: 15 min/day - 1 hour/day = 0,2; duration < 15 min/day = 0,1. RCR (DU) = f(DU) * RCR (as stated in ES) / f (duration in ES)

Concentration of the substance in the product

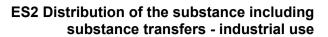
If the downstream user (DU) uses the substance in a different concentration than the one stated in the ES, a linear correlation between the RCR (Inhalation) and the RCR (dermal) and the concentration exists. Following scaling factors (f) apply: Concentration >25% =1; concentration >= 5% = 0.6; concentration >= 1% = 0.2; concentration < 1% = 0.1. RCR (DU) = f(DU) * RCR (as stated in ES) / f (concentration in ES).

4.2 Exposure estimation - Environment

| Used exposure estimation model for calculation of environmental exposure | | |
|--|---|--|
| Used exposure estimation model | As no environmental hazard was identified no environmental-related exposure | |
| | assessment and risk characterization was performed. | |

4.3 Exposure estimation - Worker

| Used exposure estimation model for calculation of worker exposure | | |
|---|---------------------------------|--|
| Used exposure estimation model | EasyTRA Version 3.0 | |
| Link to exposure estimation tool | FASY TRA: http://www.easytra.de | |





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