**IEDARBĪBAS SCENĀRIJS PAZIŅOŠANAI**

**Vielas nosaukums:** calcium chloride

**EK numurs:** 233-140-8

**CAS numurs:** 10043-52-4

**Reģistrācijas Numurs:**

**Sagatavošanas/pārskatīšanas datums:** 16/04/2020

**Autors:** Apeiron-Team NV

**Saturs**

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**Nodaļa 1. ES 1: Ražotājs**

**1.1. Sadaļas iedaļa**

ESnosaukums: Manufacture

|  |  |
| --- | --- |
| **Vide** |  |
| 1: *Manufacturing of substances* | ERC 1 |
| **Strādājošais** |  |
| 2: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment condition* | PROC 1 |
| 3: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment condition* | PROC 2 |
| 4: *Manufacture in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* | PROC 3 |
| 5: Chemical production where opportunity for exposure arises | PROC 4 |
| 6: *Transfer of a substance or mixture during process sampling at dedicated facilities* | PROC 8b, PROC 26 |
| 7: *Transfer of a substance or mixture during process sampling at non-dedicated facilities* | PROC 8a, PROC 26 |
| 8: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* | PROC 9, PROC 26 |
| 9: Tabletting, compression, extrusion, pelettisation, granulation | PROC 14 |
| 10: Use as laboratory reagent | PROC 15, PROC 26 |
| 11: *Transfer of substance or mixture (charging/discharging) at non dedicated-facilities* | PROC 8a, PROC 26 |
| 12: *Transfer of substance or mixture (charging/discharging) at dedicated-facilities* | PROC 8b, PROC 26 |
| 13: *Equipment cleaning and maintenance at non-dedicated facility* | PROC 8a, PROC 28 |
| 14: Handling of solid inorganic substances at ambient temperature | PROC 26 |
| 15: *Manual maintenance (cleaning and repair) of machinery at non-dedicated facility* | PROC 28 |

**1.2. Lietošanas apstākļi, kas ietekmē iedarbību**

**1.2.1. Iedarbības uz strādājošajiem kontrole**

**Lietošanas nosacījumi attiecas uz visiem veicinošajiem scenārijiem.**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais (vai izstrādājumos esošais) daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 8 h/day |
| **Tehniskie un organizatoriskie nosacījumi un pasākumi** |
| Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Nosacījumi un pasākumi, kas saistīti ar individuālo aizsardzību, higiēnu un bīstamības novērtējumu attiecībā uz veselību** |
| Use suitable eye protection. |
| Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Citi nosacījumi, kas ietekmē iedarbību uz strādājošajiem** |
| Indoor use |
| Assumes process temperature up to 20 °C |

**1.3. Iedarbības aplēse un atsauce uz tās avotu**

**1.3.1. Iedarbība uz strādājošajiem: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment condition* (PROC 1)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.774 mg/m³ (Izmērīti dati) | 0.355 |
| Ieelpojot, lokāla, akūta | 1.774 mg/m³ (Izmērīti dati) | 0.177 |

**1.3.2. Iedarbība uz strādājošajiem: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment condition* (PROC 2)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.774 mg/m³ (Izmērīti dati) | 0.355 |
| Ieelpojot, lokāla, akūta | 1.774 mg/m³ (Izmērīti dati) | 0.177 |

**1.3.3. Iedarbība uz strādājošajiem: *Manufacture in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* (PROC 3)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.774 mg/m³ (Izmērīti dati) | 0.355 |
| Ieelpojot, lokāla, akūta | 1.774 mg/m³ (Izmērīti dati) | 0.177 |

**1.3.4. Iedarbība uz strādājošajiem: Chemical production where opportunity for exposure arises (PROC 4)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.881 mg/m³ (Izmērīti dati) | 0.376 |
| Ieelpojot, lokāla, akūta | 1.881 mg/m³ (Izmērīti dati) | 0.188 |

**1.3.5. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at dedicated facilities* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.6. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at non-dedicated facilities* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.7. Iedarbība uz strādājošajiem: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* (PROC 9, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.8. Iedarbība uz strādājošajiem: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.9. Iedarbība uz strādājošajiem: Use as laboratory reagent (PROC 15, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.774 mg/m³ (Izmērīti dati) | 0.355 |
| Ieelpojot, lokāla, akūta | 1.774 mg/m³ (Izmērīti dati) | 0.177 |

**1.3.10. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at non dedicated-facilities* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.11. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at dedicated-facilities* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.12. Iedarbība uz strādājošajiem: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.13. Iedarbība uz strādājošajiem: Handling of solid inorganic substances at ambient temperature (PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.3.14. Iedarbība uz strādājošajiem: *Manual maintenance (cleaning and repair) of machinery at non-dedicated facility* (PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 2.742 mg/m³ (Izmērīti dati) | 0.548 |
| Ieelpojot, lokāla, akūta | 2.742 mg/m³ (Izmērīti dati) | 0.274 |

**1.4. Pakārtotajam lietotājam paredzētas vadlīnijas, lai novērtētu, vai viņš strādā, ievērojot iedarbības scenārijā noteiktās robežas**

**Nodaļa 2. ES 2: Formulēšana vai atkārtota iepakošana**

**2.1. Sadaļas iedaļa**

ESnosaukums: Formulation or re-packing; Distribution of substance

|  |  |
| --- | --- |
| **Vide** |  |
| 1: Formulation into mixture | ERC 2 |
| **Strādājošais** |  |
| 2: *Chemical production in closed process without likelihood of exposure or in containment conditions.* | PROC 1 |
| 3: *Chemical production in closed continuous process with occasional controlled exposure.* | PROC 2 |
| 4: *Formulation in closed batch processes with occasional controlled exposure.* | PROC 3 |
| 5: *Chemical production where opportunity for exposure arises* | PROC 4 |
| 6: Mixing or blending in batch processes | PROC 5 |
| 7: *Transfer of a substance or mixture during process sampling at dedicated facilities* | PROC 8b, PROC 26 |
| 8: *Transfer of a substance or mixture during process sampling at non-dedicated facilities* | PROC 8a, PROC 26 |
| 9: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* | PROC 9, PROC 26 |
| 10: Use as laboratory reagent | PROC 15, PROC 26 |
| 11: Tabletting, compression, extrusion, pelettisation, granulation | PROC 14 |
| 12: *Transfer of substance or mixture (charging/discharging) at non dedicated-facilities* | PROC 8a, PROC 26 |
| 13: *Transfer of substance or mixture (charging/discharging) at dedicated-facilities* | PROC 8b, PROC 26 |
| 14: *Equipment cleaning and maintenance at non-dedicated facility* | PROC 8a, PROC 28 |
| 15: Manual maintenance (cleaning and repair) of machinery | PROC 28 |

**2.2. Lietošanas apstākļi, kas ietekmē iedarbību**

**2.2.1. Iedarbības uz strādājošajiem kontrole**

**Lietošanas nosacījumi attiecas uz visiem veicinošajiem scenārijiem.**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Tehniskie un organizatoriskie nosacījumi un pasākumi** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Nosacījumi un pasākumi, kas saistīti ar individuālo aizsardzību, higiēnu un bīstamības novērtējumu attiecībā uz veselību** |
| Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| *Use suitable eye protection.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz strādājošajiem** |
| Indoor use |
| Assumes process temperature up to 20 °C |

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**Īpaši lietošanas nosacījumi katram veicinošajam scenārijam**

|  |  |
| --- | --- |
| **Veicināšanas scenāriji** | **Īpaši pasākumi** |
| ***Chemical production in closed process without likelihood of exposure or in containment conditions.* (PROC 1)** | Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour). |
| ***Chemical production in closed continuous process with occasional controlled exposure.* (PROC 2)** | Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour). |
| ***Formulation in closed batch processes with occasional controlled exposure.* (PROC 3)** | Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour). |
| ***Chemical production where opportunity for exposure arises* (PROC 4)** | Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |
| **Mixing or blending in batch processes (PROC 5)** | Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |
| ***Transfer of a substance or mixture during process sampling at dedicated facilities* (PROC 8b, PROC 26)** | Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). |
| ***Transfer of a substance or mixture during process sampling at non-dedicated facilities* (PROC 8a, PROC 26)** | Covers use up to 1 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |
| ***Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* (PROC 9, PROC 26)** | Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |
| **Use as laboratory reagent (PROC 15, PROC 26)** | Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour). |
| **Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)** | Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour). |
| ***Transfer of substance or mixture (charging/discharging) at non dedicated-facilities* (PROC 8a, PROC 26)** | Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |
| ***Transfer of substance or mixture (charging/discharging) at dedicated-facilities* (PROC 8b, PROC 26)** | Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). |
| ***Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)** | Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]*  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |
| **Manual maintenance (cleaning and repair) of machinery (PROC 28)** | Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]*  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |

**2.3. Iedarbības aplēse un atsauce uz tās avotu**

**2.3.1. Iedarbība uz strādājošajiem: *Chemical production in closed process without likelihood of exposure or in containment conditions.* (PROC 1)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

**2.3.2. Iedarbība uz strādājošajiem: *Chemical production in closed continuous process with occasional controlled exposure.* (PROC 2)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.3. Iedarbība uz strādājošajiem: *Formulation in closed batch processes with occasional controlled exposure.* (PROC 3)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**2.3.4. Iedarbība uz strādājošajiem: *Chemical production where opportunity for exposure arises* (PROC 4)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.5. Iedarbība uz strādājošajiem: Mixing or blending in batch processes (PROC 5)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.6. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at dedicated facilities* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**2.3.7. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at non-dedicated facilities* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.8. Iedarbība uz strādājošajiem: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* (PROC 9, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.9. Iedarbība uz strādājošajiem: Use as laboratory reagent (PROC 15, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.10. Iedarbība uz strādājošajiem: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**2.3.11. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at non dedicated-facilities* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.12. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at dedicated-facilities* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**2.3.13. Iedarbība uz strādājošajiem: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.14. Iedarbība uz strādājošajiem: Manual maintenance (cleaning and repair) of machinery (PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.2 |

**2.4. Pakārtotajam lietotājam paredzētas vadlīnijas, lai novērtētu, vai viņš strādā, ievērojot iedarbības scenārijā noteiktās robežas**

**Nodaļa 3. ES 3: Lietošanas veids rūpniecības ražotnē; Dažādas nozares (SU 1, SU 2a, SU 2b, SU 4, SU 5, SU 6b, SU 8, SU 9, SU 11, SU 12, SU 13, SU 14, SU 15, SU 16, SU 17)**

**3.1. Sadaļas iedaļa**

ESnosaukums: *Use at industrial site (e.g. Industrial Indoor use as Chemical Intermediate and Process aid, Industrial Outdoor use)*

Lietošanas nozare: Lauksaimniecība, mežsaimniecība, zivsaimniecība (SU 1), Ieguves rūpniecība (izņemot ieguvi atklātā jūrā) (SU 2a), Ieguve atklātā jūrā (SU 2b), Pārtikas produktu ražošana (SU 4), Tekstilizstrādājumu, ādas, kažokādas izstrādājumu ražošana (SU 5), Celulozes, papīra un papīra produktu ražošana (SU 6b), Beztaras ķimikāliju (tostarp naftas produktu) ražošana lielos apmēros (SU 8), Smalkās organiskās sintēzes produktu ražošana (SU 9), Gumijas izstrādājumu ražošana (SU 11), Plastmasas izstrādājumu ražošana, tostarp maisījumu gatavošana un konversija (SU 12), Citu nemetālisko minerālu produktu, piemēram, ģipša, cementa ražošana (SU 13), Pamatmetālu, arī sakausējumu ražošana (SU 14), Gatavo metālizstrādājumu ražošana, izņemot mašīnas un iekārtas (SU 15), Datoru, elektronisko un optisko iekārtu, elektrisko iekārtu ražošana (SU 16), Ražošana vispārīgā izpratnē, piemēram, mašīnas, iekārtas, transportlīdzekļi, citas transporta iekārtas (SU 17)

|  |  |
| --- | --- |
| **Vide** |  |
| 1: Use as an intermediate | ERC 6a |
| 2: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | ERC 4 |
| **Strādājošais** |  |
| 3: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions* | PROC 1 |
| 4: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* | PROC 2 |
| 5: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* | PROC 3 |
| 6: Chemical production where opportunity for exposure arises | PROC 4 |
| 7: Mixing or blending in batch processes | PROC 5 |
| 8: Calendering operations | PROC 6 |
| 9: Indoor use; Industrial spraying; Solid in solution | PROC 7 |
| 10: Outdoor use; Industrial spraying | PROC 7 |
| 11: Outdoor use; Industrial spraying | PROC 7 |
| 12: *Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation* | PROC 8a, PROC 26 |
| 13: *Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation* | PROC 8a, PROC 26 |
| 14: *Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation* | PROC 8b, PROC 26 |
| 15: *Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation* | PROC 8b, PROC 26 |
| 16: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities with a local exhaust ventilation.* | PROC 8a, PROC 26 |
| 17: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities without a local exhaust ventilation.* | PROC 8a, PROC 26 |
| 18: *Transfer of substance or mixture (charging/discharging) at dedicated facilities with a local exhaust ventilation.* | PROC 8b, PROC 26 |
| 19: *Transfer of substance or mixture (charging/discharging) at dedicated facilities without a local exhaust ventilation.* | PROC 8b, PROC 26 |
| 20: *Equipment cleaning and maintenance at non-dedicated facility* | PROC 8a, PROC 28 |
| 21: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities with a local exhaust ventilation* | PROC 9, PROC 26, PROC 27b |
| 22: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation* | PROC 9, PROC 26 |
| 23: Roller application or brushing | PROC 10 |
| 24: Treatment of articles by dipping and pouring | PROC 13 |
| 25: Tabletting, compression, extrusion, pelettisation, granulation | PROC 14 |
| 26: Use as laboratory reagent | PROC 15, PROC 26, PROC 27b |
| 27: *Manufacturing and processing of minerals and/or metals at substantially elevated temperature (> melting point - High fugacity)* | PROC 22, PROC 27a |
| 28: *Manufacturing and processing of minerals and/or metals at substantially elevated temperature (>= melting point. Medium fugacity)* | PROC 22, PROC 27a |
| 29: *Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity)* | PROC 23, PROC 27a |
| 30: *Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity)* | PROC 23, PROC 27a |
| 31: *Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities* | PROC 28 |

**3.2. Lietošanas apstākļi, kas ietekmē iedarbību**

**3.2.1. Iedarbības uz strādājošajiem kontrole**

**Lietošanas nosacījumi attiecas uz visiem veicinošajiem scenārijiem.**

|  |
| --- |
| **Tehniskie un organizatoriskie nosacījumi un pasākumi** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Nosacījumi un pasākumi, kas saistīti ar individuālo aizsardzību, higiēnu un bīstamības novērtējumu attiecībā uz veselību** |
| Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| *Use suitable eye protection.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz strādājošajiem** |
| Assumes process temperature up to 20 °C |

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**Īpaši lietošanas nosacījumi katram veicinošajam scenārijam**

|  |  |
| --- | --- |
| **Veicināšanas scenāriji** | **Īpaši pasākumi** |
| ***Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions* (PROC 1)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| ***Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* (PROC 2)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| ***Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* (PROC 3)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| **Chemical production where opportunity for exposure arises (PROC 4)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Indoor use |
| **Mixing or blending in batch processes (PROC 5)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.  Outdoor use |
| **Calendering operations (PROC 6)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*  Indoor use |
| **Indoor use; Industrial spraying; Solid in solution (PROC 7)** | Covers concentrations up to 35 %  *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.*  Covers use up to 2 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  *Covers exposure in the presence of local exhaust ventilation of minimum 95% efficiency or respiratory protection with minimum 90% efficiency (e.g. APF of10)*  *covers spraying with moderate application rate (0.3-3 L/minute)*  *Covers spraying direction only horizontal or downward*  Indoor use |
| **Outdoor use; Industrial spraying (PROC 7)** | Covers concentrations up to 35 %  *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.*  Covers use up to 0.25 h/day  *Covers activity where the primary emission source is located in the breathing zone of the worker (i.e. the volume of air within 1 metre in any direction of the worker’s head)*  *covers any spraying direction*  *covers spraying with high compressed air*  *covers high spraying application rate (> 3 L/minute)*  *Covers spraying activity wearing respiratory protection with minimum efficiency of 95% (i.e. APF of 20)*  Outdoor use |
| **Outdoor use; Industrial spraying (PROC 7)** | Covers concentrations up to 35 %  *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.*  Covers use up to 2 h/day  *Covers activity where the primary emission source is located out the breathing zone of the worker (i.e. the volume of air is more than 1 metre in any direction of the worker’s head)*  *Covers spraying direction only horizontal or downward*  *covers spraying with high compressed air*  *covers high spraying application rate (> 3 L/minute)*  Outdoor use  *covers partial personal enclosure (e.g. truck cabin)* |
| ***Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation* (PROC 8a, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 1 h/day  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| ***Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation* (PROC 8a, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 1 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*  Indoor use |
| ***Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation* (PROC 8b, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Local exhaust ventilation; Inhalation - minimum efficiency of 95 %  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| ***Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation* (PROC 8b, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| ***Transfer of substance or mixture (charging/discharging) at non-dedicated facilities with a local exhaust ventilation.* (PROC 8a, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Indoor use |
| ***Transfer of substance or mixture (charging/discharging) at non-dedicated facilities without a local exhaust ventilation.* (PROC 8a, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*  Indoor or outdoor use |
| ***Transfer of substance or mixture (charging/discharging) at dedicated facilities with a local exhaust ventilation.* (PROC 8b, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 95 %  Indoor use |
| ***Transfer of substance or mixture (charging/discharging) at dedicated facilities without a local exhaust ventilation.* (PROC 8b, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Indoor or outdoor use |
| ***Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]*  Indoor use |
| ***Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities with a local exhaust ventilation* (PROC 9, PROC 26, PROC 27b)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Indoor use |
| ***Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation* (PROC 9, PROC 26)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*  Indoor or outdoor use |
| **Roller application or brushing (PROC 10)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*  Indoor use |
| **Treatment of articles by dipping and pouring (PROC 13)** | Solid, medium dustiness  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| **Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| **Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| ***Manufacturing and processing of minerals and/or metals at substantially elevated temperature (> melting point - High fugacity)* (PROC 22, PROC 27a)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Indoor use |
| ***Manufacturing and processing of minerals and/or metals at substantially elevated temperature (>= melting point. Medium fugacity)* (PROC 22, PROC 27a)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Indoor use |
| ***Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity)* (PROC 23, PROC 27a)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Indoor use |
| ***Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity)* (PROC 23, PROC 27a)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a good standard of controlled ventilation (5 to 10 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Indoor use |
| ***Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities* (PROC 28)** | Covers concentrations up to 100 %  *Solid, medium dustiness. Covers also liquid form*  Covers use up to 8 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of %  *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]*  Indoor use |

**3.3. Iedarbības aplēse un atsauce uz tās avotu**

**3.3.1. Iedarbība uz strādājošajiem: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions* (PROC 1)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

**3.3.2. Iedarbība uz strādājošajiem: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* (PROC 2)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.3. Iedarbība uz strādājošajiem: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* (PROC 3)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.4. Iedarbība uz strādājošajiem: Chemical production where opportunity for exposure arises (PROC 4)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.5. Iedarbība uz strādājošajiem: Mixing or blending in batch processes (PROC 5)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.6. Iedarbība uz strādājošajiem: Calendering operations (PROC 6)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.7. Iedarbība uz strādājošajiem: Indoor use; Industrial spraying; Solid in solution (PROC 7)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.2 mg/m³ (ART) | 0.24 |
| Ieelpojot, lokāla, akūta | 9.6 mg/m³ (ART) | 0.96 |

**3.3.8. Iedarbība uz strādājošajiem: Outdoor use; Industrial spraying (PROC 7)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.2 mg/m³ (ART) | 0.24 |
| Ieelpojot, lokāla, akūta | 9.6 mg/m³ (ART) | 0.96 |

**3.3.9. Iedarbība uz strādājošajiem: Outdoor use; Industrial spraying (PROC 7)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.2 mg/m³ (ART) | 0.24 |
| Ieelpojot, lokāla, akūta | 9.6 mg/m³ (ART) | 0.96 |

**3.3.10. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.11. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.12. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.05 mg/m³ (TRA Workers 3.0) | 0.01 |
| Ieelpojot, lokāla, akūta | 0.2 mg/m³ (TRA Workers 3.0) | 0.02 |

**3.3.13. Iedarbība uz strādājošajiem: *Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.14. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities with a local exhaust ventilation.* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.15. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities without a local exhaust ventilation.* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.16. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at dedicated facilities with a local exhaust ventilation.* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.035 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.14 mg/m³ (TRA Workers 3.0) | 0.014 |

**3.3.17. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at dedicated facilities without a local exhaust ventilation.* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**3.3.18. Iedarbība uz strādājošajiem: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.19. Iedarbība uz strādājošajiem: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities with a local exhaust ventilation* (PROC 9, PROC 26, PROC 27b)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.20. Iedarbība uz strādājošajiem: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation* (PROC 9, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.21. Iedarbība uz strādājošajiem: Roller application or brushing (PROC 10)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.22. Iedarbība uz strādājošajiem: Treatment of articles by dipping and pouring (PROC 13)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.23. Iedarbība uz strādājošajiem: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.24. Iedarbība uz strādājošajiem: Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.25. Iedarbība uz strādājošajiem: *Manufacturing and processing of minerals and/or metals at substantially elevated temperature (> melting point - High fugacity)* (PROC 22, PROC 27a)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Ieelpojot, lokāla, akūta | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

**3.3.26. Iedarbība uz strādājošajiem: *Manufacturing and processing of minerals and/or metals at substantially elevated temperature (>= melting point. Medium fugacity)* (PROC 22, PROC 27a)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Ieelpojot, lokāla, akūta | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

**3.3.27. Iedarbība uz strādājošajiem: *Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity)* (PROC 23, PROC 27a)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.28. Iedarbība uz strādājošajiem: *Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity)* (PROC 23, PROC 27a)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.03 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.12 mg/m³ (TRA Workers 3.0) | 0.012 |

**3.3.29. Iedarbība uz strādājošajiem: *Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities* (PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.5 mg/m³ (ECETOC TRA Workers) | 0.1 |
| Ieelpojot, lokāla, akūta | 2 mg/m³ (ECETOC TRA Workers) | 0.2 |

**3.4. Pakārtotajam lietotājam paredzētas vadlīnijas, lai novērtētu, vai viņš strādā, ievērojot iedarbības scenārijā noteiktās robežas**

Mērogošanas rīks: For the evaluation of spraying activities the ART (Advanced Reach Tool) modeling tool has been used. In case the DU cannot demonstrate safe use with the conditions currently presented in this SDS Annex, the ART modeling Tool can be used as scaling tool.

**Nodaļa 4. ES 4: Profesionāls lietojums lielos apmēros; Dažādas nozares (SU 0, SU 1, SU 13, SU 19, SU 20)**

**4.1. Sadaļas iedaļa**

ESnosaukums: Professional use; Indoor use

Lietošanas nozare: Citi (SU 0), Lauksaimniecība, mežsaimniecība, zivsaimniecība (SU 1), Citu nemetālisko minerālu produktu, piemēram, ģipša, cementa ražošana (SU 13), Būvniecības un celtniecības darbi (SU 19), Veselības aizsardzība (SU 20)

|  |  |
| --- | --- |
| **Vide** |  |
| 1: Indoor use; Professional use | ERC 8a |
| **Strādājošais** |  |
| 2: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions* | PROC 1 |
| 3: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* | PROC 2 |
| 4: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* | PROC 3 |
| 5: Chemical production where opportunity for exposure arises | PROC 4 |
| 6: Mixing or blending in batch processes | PROC 5 |
| 7: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities* | PROC 8a, PROC 26 |
| 8: *Transfer of substance or mixture (charging/discharging) at dedicated facilities* | PROC 8b, PROC 26 |
| 9: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* | PROC 9, PROC 26 |
| 10: Roller application or brushing | PROC 10 |
| 11: Indoor use; Non-industrial spraying; Solid in solution | PROC 11 |
| 12: Use as laboratory reagent | PROC 15, PROC 26 |
| 13: Manual activities involving hand contact | PROC 19 |
| 14: Use of functional fluids in small devices | PROC 20 |
| 15: *Equipment cleaning and maintenance at non-dedicated facility* | PROC 8a, PROC 28 |
| 16: *Manual maintenance (cleaning and repair) of machinery at non-dedicated facility* | PROC 28 |

**4.2. Lietošanas apstākļi, kas ietekmē iedarbību**

**4.2.1. Iedarbības uz strādājošajiem kontrole**

**Lietošanas nosacījumi attiecas uz visiem veicinošajiem scenārijiem.**

|  |
| --- |
| **Nosacījumi un pasākumi, kas saistīti ar individuālo aizsardzību, higiēnu un bīstamības novērtējumu attiecībā uz veselību** |
| *Use suitable eye protection.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz strādājošajiem** |
| Indoor use |
| Assumes process temperature up to 20 °C |

​

**Īpaši lietošanas nosacījumi katram veicinošajam scenārijam**

|  |  |
| --- | --- |
| **Veicināšanas scenāriji** | **Īpaši pasākumi** |
| ***Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions* (PROC 1)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| ***Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* (PROC 2)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| ***Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* (PROC 3)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Chemical production where opportunity for exposure arises (PROC 4)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Local exhaust ventilation; Inhalation - minimum efficiency of 80 %  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Mixing or blending in batch processes (PROC 5)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Local exhaust ventilation; Inhalation - minimum efficiency of 80 %  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| ***Transfer of substance or mixture (charging/discharging) at non-dedicated facilities* (PROC 8a, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Local exhaust ventilation; Inhalation - minimum efficiency of 80 %  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| ***Transfer of substance or mixture (charging/discharging) at dedicated facilities* (PROC 8b, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Local exhaust ventilation; Inhalation - minimum efficiency of 80 %  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| ***Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* (PROC 9, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Local exhaust ventilation; Inhalation - minimum efficiency of 80 %  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Roller application or brushing (PROC 10)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 90 %  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Indoor use; Non-industrial spraying; Solid in solution (PROC 11)** | Covers concentrations up to 35 %  *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.*  Covers use up to 2 h/day  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  *Covers exposure in the presence of local exhaust ventilation of minimum 95% efficiency or respiratory protection with minimum 90% efficiency (e.g. APF of10)*  *covers spraying with moderate application rate (0.3-3 L/minute)*  *Covers spraying direction only horizontal or downward*  Wear suitable gloves tested to EN374.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Use as laboratory reagent (PROC 15, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Manual activities involving hand contact (PROC 19)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of 80 %  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Use of functional fluids in small devices (PROC 20)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| ***Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* |
| ***Manual maintenance (cleaning and repair) of machinery at non-dedicated facility* (PROC 28)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Provide a basic standard of general ventilation (1 to 3 air changes per hour).  Local exhaust ventilation; Inhalation - minimum efficiency of %  *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |

**4.3. Iedarbības aplēse un atsauce uz tās avotu**

**4.3.1. Iedarbība uz strādājošajiem: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions* (PROC 1)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

**4.3.2. Iedarbība uz strādājošajiem: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* (PROC 2)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**4.3.3. Iedarbība uz strādājošajiem: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition* (PROC 3)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.4. Iedarbība uz strādājošajiem: Chemical production where opportunity for exposure arises (PROC 4)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.5. Iedarbība uz strādājošajiem: Mixing or blending in batch processes (PROC 5)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.6. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.4 mg/m³ (TRA Workers 3.0) | 0.28 |
| Ieelpojot, lokāla, akūta | 5.6 mg/m³ (TRA Workers 3.0) | 0.56 |

**4.3.7. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at dedicated facilities* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.8. Iedarbība uz strādājošajiem: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* (PROC 9, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.9. Iedarbība uz strādājošajiem: Roller application or brushing (PROC 10)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.10. Iedarbība uz strādājošajiem: Indoor use; Non-industrial spraying; Solid in solution (PROC 11)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.2 mg/m³ (ART) | 0.24 |
| Ieelpojot, lokāla, akūta | 9.6 mg/m³ (ART) | 0.96 |

**4.3.11. Iedarbība uz strādājošajiem: Use as laboratory reagent (PROC 15, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.12. Iedarbība uz strādājošajiem: Manual activities involving hand contact (PROC 19)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.13. Iedarbība uz strādājošajiem: Use of functional fluids in small devices (PROC 20)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Ieelpojot, lokāla, akūta | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**4.3.14. Iedarbība uz strādājošajiem: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.15. Iedarbība uz strādājošajiem: *Manual maintenance (cleaning and repair) of machinery at non-dedicated facility* (PROC 28)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (ECETOC TRA Workers) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (ECETOC TRA Workers) | 0.28 |

**4.4. Pakārtotajam lietotājam paredzētas vadlīnijas, lai novērtētu, vai viņš strādā, ievērojot iedarbības scenārijā noteiktās robežas**

Mērogošanas rīks: For the evaluation of spraying activities the ART (Advanced Reach Tool) modeling tool has been used. In case the DU cannot demonstrate safe use with the conditions currently presented in this SDS Annex, the ART modeling Tool can be used as scaling tool.

**Nodaļa 5. ES 5: Profesionāls lietojums lielos apmēros; Dažādas nozares (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)**

**5.1. Sadaļas iedaļa**

ESnosaukums: Professional use; Outdoor use

Lietošanas nozare: Citi (SU 0), Lauksaimniecība, mežsaimniecība, zivsaimniecība (SU 1), Tekstilizstrādājumu, ādas, kažokādas izstrādājumu ražošana (SU 5), Citu nemetālisko minerālu produktu, piemēram, ģipša, cementa ražošana (SU 13), Būvniecības un celtniecības darbi (SU 19), Veselības aizsardzība (SU 20)

|  |  |
| --- | --- |
| **Vide** |  |
| 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC 8d |
| **Strādājošais** |  |
| 2: *Chemical production in closed process without likelihood of exposure or in containment conditions.* | PROC 1 |
| 3: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* | PROC 2 |
| 4: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions* | PROC 3 |
| 5: Chemical production where opportunity for exposure arises | PROC 4 |
| 6: Mixing or blending in batch processes | PROC 5 |
| 7: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities* | PROC 8a, PROC 26 |
| 8: *Transfer of substance or mixture (charging/discharging) at dedicated facilities* | PROC 8b, PROC 26 |
| 9: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* | PROC 9, PROC 26 |
| 10: Roller application or brushing | PROC 10 |
| 11: Outdoor use; Non-industrial spraying | PROC 11 |
| 12: Outdoor use; Non-industrial spraying | PROC 11 |
| 13: Use as laboratory reagent | PROC 15, PROC 26 |
| 14: Mixing operations; Manual activities involving hand contact | PROC 19 |
| 15: *Equipment cleaning and maintenance at non-dedicated facility* | PROC 8a |
| 16: Use of functional fluids in small devices | PROC 20 |

**5.2. Lietošanas apstākļi, kas ietekmē iedarbību**

**5.2.1. Iedarbības uz strādājošajiem kontrole**

**Lietošanas nosacījumi attiecas uz visiem veicinošajiem scenārijiem.**

|  |
| --- |
| **Citi nosacījumi, kas ietekmē iedarbību uz strādājošajiem** |
| Outdoor use |
| Assumes process temperature up to 20 °C |

​

**Īpaši lietošanas nosacījumi katram veicinošajam scenārijam**

|  |  |
| --- | --- |
| **Veicināšanas scenāriji** | **Īpaši pasākumi** |
| ***Chemical production in closed process without likelihood of exposure or in containment conditions.* (PROC 1)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection* |
| ***Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* (PROC 2)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection* |
| ***Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions* (PROC 3)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection* |
| **Chemical production where opportunity for exposure arises (PROC 4)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection* |
| **Mixing or blending in batch processes (PROC 5)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection* |
| ***Transfer of substance or mixture (charging/discharging) at non-dedicated facilities* (PROC 8a, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection*  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. |
| ***Transfer of substance or mixture (charging/discharging) at dedicated facilities* (PROC 8b, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection*  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. |
| ***Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* (PROC 9, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  *Use suitable eye protection*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. |
| **Roller application or brushing (PROC 10)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection*  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. |
| **Outdoor use; Non-industrial spraying (PROC 11)** | Covers concentrations up to 35 %  *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.*  Covers use up to 2 h/day  *Covers activity where the primary emission source is located out the breathing zone of the worker (i.e. the volume of air is more than 1 metre in any direction of the worker’s head)*  Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.  *Covers spraying direction only horizontal or downward*  *covers spraying with high compressed air*  *covers high spraying application rate (> 3 L/minute)*  *Use suitable eye protection.*  Wear suitable gloves tested to EN374.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *covers partial personal enclosure (e.g. truck cabin)* |
| **Outdoor use; Non-industrial spraying (PROC 11)** | Covers concentrations up to 35 %  *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.*  Covers use up to 0.25 h/day  *Covers activity where the primary emission source is located in the breathing zone of the worker (i.e. the volume of air within 1 metre in any direction of the worker’s head)*  Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.  *covers any spraying direction*  *covers spraying with high compressed air*  *covers high spraying application rate (> 3 L/minute)*  *Use suitable eye protection.*  *Covers spraying activity wearing respiratory protection with minimum efficiency of 95% (i.e. APF of 20)*  Wear suitable gloves tested to EN374.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. |
| **Use as laboratory reagent (PROC 15, PROC 26)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection* |
| **Mixing operations; Manual activities involving hand contact (PROC 19)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection*  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. |
| ***Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection*  Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. |
| **Use of functional fluids in small devices (PROC 20)** | Covers concentrations up to 100 %  Solid, medium dustiness  Covers use up to 8 h/day  *Assumes a good basic standard of occupational hygiene is implemented*  Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.  *Use suitable eye protection* |

**5.3. Iedarbības aplēse un atsauce uz tās avotu**

**5.3.1. Iedarbība uz strādājošajiem: *Chemical production in closed process without likelihood of exposure or in containment conditions.* (PROC 1)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 7E-3 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.028 mg/m³ (TRA Workers 3.0) | < 0.01 |

**5.3.2. Iedarbība uz strādājošajiem: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions* (PROC 2)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.3. Iedarbība uz strādājošajiem: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions* (PROC 3)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.4. Iedarbība uz strādājošajiem: Chemical production where opportunity for exposure arises (PROC 4)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.5. Iedarbība uz strādājošajiem: Mixing or blending in batch processes (PROC 5)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.6. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities* (PROC 8a, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.7. Iedarbība uz strādājošajiem: *Transfer of substance or mixture (charging/discharging) at dedicated facilities* (PROC 8b, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.8. Iedarbība uz strādājošajiem: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)* (PROC 9, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.9. Iedarbība uz strādājošajiem: Roller application or brushing (PROC 10)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.10. Iedarbība uz strādājošajiem: Outdoor use; Non-industrial spraying (PROC 11)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.2 mg/m³ (ART) | 0.24 |
| Ieelpojot, lokāla, akūta | 9.6 mg/m³ (ART) | 0.96 |

**5.3.11. Iedarbība uz strādājošajiem: Outdoor use; Non-industrial spraying (PROC 11)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 1.2 mg/m³ (ART) | 0.24 |
| Ieelpojot, lokāla, akūta | 9.6 mg/m³ (ART) | 0.96 |

**5.3.12. Iedarbība uz strādājošajiem: Use as laboratory reagent (PROC 15, PROC 26)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.13. Iedarbība uz strādājošajiem: Mixing operations; Manual activities involving hand contact (PROC 19)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Ieelpojot, lokāla, akūta | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.14. Iedarbība uz strādājošajiem: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.15. Iedarbība uz strādājošajiem: Use of functional fluids in small devices (PROC 20)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Ieelpojot, lokāla, akūta | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.4. Pakārtotajam lietotājam paredzētas vadlīnijas, lai novērtētu, vai viņš strādā, ievērojot iedarbības scenārijā noteiktās robežas**

Norādījumi: Application of de-icing agent (mixture of 70% NaCl and 30% of a 20% solution of CaCl2) assumes a fraction of 0.06 of CaCl2 in road salt with an annual tonnage of 0.09 tonnes/km for 25 emission days per year. Application of de-icing agent (liquid CaCl2 brine (max. 35% solution)) assumes a fraction of 0.35 of CaCl2 in road salt with an annual tonnage of 0.28 tonnes/km for 25 emission days per year. Application of Dust suppressor (solid CaCl2 (up to 80%)) assumes a fraction of 0.8 of CaCl2 in road salt with an annual tonnage of 2.4 tonnes/km for 3 emission days per year. Application of Dust suppressor (solid CaCl2 (up to 37%)) assumes a fraction of 0.37 of CaCl2 in road salt with an annual tonnage of 1.11 tonnes/km for 3 emission days per year.

**Nodaļa 6. ES 6: Patēriņa lietojumi; Dažādi produkti (PC 0, PC 2, PC 4, PC 12, PC 16, PC 27, PC 35, PC 37)**

**6.1. Sadaļas iedaļa**

ESnosaukums: Consumer use; Indoor or outdoor use

Produktu kategorija: Citi (PC 0), Adsorbenti (PC 2), Antifrīzi un atledošanas produkti (PC 4), Minerālmēsli (PC 12), Siltumpārneses šķidrumi (PC 16), Augu aizsardzības līdzekļi (PC 27), Mazgāšanas un tīrīšanas līdzekļi (PC 35), Ķimikālijas ūdens apstrādei (PC 37)

|  |  |
| --- | --- |
| **Vide** |  |
| 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) | ERC 8a |
| 2: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC 8d |
| **Patērētājs** |  |
| 3: Dust suppressant; No spraying | PC 0 |
| 4: Dust suppressant; Spraying | PC 0 |
| 5: *Humidity adsorbants* | PC 0 |
| 6: *Cement/concrete/mortar* | PC 0 |
| 7: Adsorbents | PC 2 |
| 8: Anti-freeze and de-icing products; No spraying | PC 4 |
| 9: Anti-freeze and de-icing products; Spraying | PC 4 |
| 10: Fertilizers; No spraying | PC 12 |
| 11: Fertilizers; Spraying | PC 12 |
| 12: Heat transfer fluids | PC 16 |
| 13: Plant protection products; No spraying | PC 27 |
| 14: Plant protection products; Spraying | PC 27 |
| 15: Water treatment chemicals | PC 37 |
| 16: Washing and cleaning products; No spraying | PC 35 |
| 17: Washing and cleaning products; Spraying | PC 35 |

**6.2. Lietošanas apstākļi, kas ietekmē iedarbību**

**6.2.1. Iedarbības uz patērētāju kontrole: Dust suppressant; No spraying (PC 0)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.2. Iedarbības uz patērētāju kontrole: Dust suppressant; Spraying (PC 0)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 45 % |
| *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.* |
| *Covers spraying activity* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.3. Iedarbības uz patērētāju kontrole: *Humidity adsorbants* (PC 0)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.4. Iedarbības uz patērētāju kontrole: *Cement/concrete/mortar* (PC 0)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.5. Iedarbības uz patērētāju kontrole: Adsorbents (PC 2)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.6. Iedarbības uz patērētāju kontrole: Anti-freeze and de-icing products; No spraying (PC 4)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| For each use event, covers use amounts up to 5E4 g/event |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.7. Iedarbības uz patērētāju kontrole: Anti-freeze and de-icing products; Spraying (PC 4)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 45 % |
| *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.* |
| *Covers spraying activity* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.8. Iedarbības uz patērētāju kontrole: Fertilizers; No spraying (PC 12)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.9. Iedarbības uz patērētāju kontrole: Fertilizers; Spraying (PC 12)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 45 % |
| *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.* |
| *Covers spraying activity* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.10. Iedarbības uz patērētāju kontrole: Heat transfer fluids (PC 16)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.11. Iedarbības uz patērētāju kontrole: Plant protection products; No spraying (PC 27)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.12. Iedarbības uz patērētāju kontrole: Plant protection products; Spraying (PC 27)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 45 % |
| *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.* |
| *Covers spraying activity* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.13. Iedarbības uz patērētāju kontrole: Water treatment chemicals (PC 37)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| *Covers exposure via inhalation route* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.14. Iedarbības uz patērētāju kontrole: Washing and cleaning products; No spraying (PC 35)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Citi nosacījumi, kas ietekmē iedarbību uz patērētājiem** |
| Release area <= 125 m2 |

**6.2.15. Iedarbības uz patērētāju kontrole: Washing and cleaning products; Spraying (PC 35)**

|  |
| --- |
| **Produkta (izstrādājuma) raksturojums** |
| Covers concentrations up to 45 % |
| *Physical form of the product is assumed as liquid, this is conservative as it is a solid in a liquid with a very low vapour pressure.* |
| *Covers spraying activity* |
| **Izmantotais daudzums, izmantošanas/iedarbības biežums un ilgums** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informācija un ieteikums par rīcību patērētājiem** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.3. Iedarbības aplēse un atsauce uz tās avotu**

**6.3.1. Iedarbība uz patērētāju: Dust suppressant; No spraying (PC 0)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.2. Iedarbība uz patērētāju: Dust suppressant; Spraying (PC 0)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Ieelpojot, lokāla, akūta | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.3. Iedarbība uz patērētāju: *Humidity adsorbants* (PC 0)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.4. Iedarbība uz patērētāju: *Cement/concrete/mortar* (PC 0)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.5. Iedarbība uz patērētāju: Adsorbents (PC 2)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.6. Iedarbība uz patērētāju: Anti-freeze and de-icing products; No spraying (PC 4)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.7. Iedarbība uz patērētāju: Anti-freeze and de-icing products; Spraying (PC 4)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Ieelpojot, lokāla, akūta | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.8. Iedarbība uz patērētāju: Fertilizers; No spraying (PC 12)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.9. Iedarbība uz patērētāju: Fertilizers; Spraying (PC 12)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Ieelpojot, lokāla, akūta | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.10. Iedarbība uz patērētāju: Heat transfer fluids (PC 16)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.11. Iedarbība uz patērētāju: Plant protection products; No spraying (PC 27)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.12. Iedarbība uz patērētāju: Plant protection products; Spraying (PC 27)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Ieelpojot, lokāla, akūta | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.13. Iedarbība uz patērētāju: Water treatment chemicals (PC 37)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.14. Iedarbība uz patērētāju: Washing and cleaning products; No spraying (PC 35)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Ieelpojot, lokāla, akūta | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.15. Iedarbība uz patērētāju: Washing and cleaning products; Spraying (PC 35)**

| **Iedarbības ceļš un ietekmes veids** | **Iedarbības aplēse** | **RCR** |
| --- | --- | --- |
| Ieelpojot, lokāla, hroniska | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Ieelpojot, lokāla, akūta | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.4. Pakārtotajam lietotājam paredzētas vadlīnijas, lai novērtētu, vai viņš strādā, ievērojot iedarbības scenārijā noteiktās robežas**