**SCENARIJ IZPOSTAVLJENOSTI ZA SPOROČANJE**

**Ime snovi:** calcium chloride

**številka ES:** 233-140-8

**Številka CAS:** 10043-52-4

**Registracijska Številka:**

**Datum nastanka/spremembe:** 16/04/2020

**Avtor:** Apeiron-Team NV

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**Poglavje 1. ES 1: Proizvodnja**

**1.1. Naslov razdelka**

Ime ES: Manufacture

|  |  |
| --- | --- |
| **Okolje** |  |
| 1: *Manufacturing of substances* | ERC 1 |
| **Delavec** |  |
| 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. Pogoji uporabe, ki vplivajo na izpostavljenost**

**1.2.1. Nadzor nad izpostavljenostjo delavca**

**Pogoji uporabe, veljavni za vse sodelujoče scenarije**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina (ali količina v izdelkih), pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 8 h/day |
| **Tehnični in organizacijski pogoji in ukrepi** |
| 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. |
| **Pogoji in ukrepi, povezani z osebno zaščito, higieno in oceno zdravstvenega varstva** |
| 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. |
| **Drugi pogoji, ki vplivajo na izpostavljenost delavcev** |
| Indoor use |
| Assumes process temperature up to 20 °C |

**1.3. Ocena izpostavljenosti in sklicevanje na njen vir**

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.774 mg/m³ (Izmerjeni podatki) | 0.355 |
| Vdihavanje, lokalni, akutni | 1.774 mg/m³ (Izmerjeni podatki) | 0.177 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.774 mg/m³ (Izmerjeni podatki) | 0.355 |
| Vdihavanje, lokalni, akutni | 1.774 mg/m³ (Izmerjeni podatki) | 0.177 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.774 mg/m³ (Izmerjeni podatki) | 0.355 |
| Vdihavanje, lokalni, akutni | 1.774 mg/m³ (Izmerjeni podatki) | 0.177 |

**1.3.4. Izpostavljenost delavca: Chemical production where opportunity for exposure arises (PROC 4)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.881 mg/m³ (Izmerjeni podatki) | 0.376 |
| Vdihavanje, lokalni, akutni | 1.881 mg/m³ (Izmerjeni podatki) | 0.188 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

**1.3.8. Izpostavljenost delavca: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

**1.3.9. Izpostavljenost delavca: Use as laboratory reagent (PROC 15, PROC 26)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.774 mg/m³ (Izmerjeni podatki) | 0.355 |
| Vdihavanje, lokalni, akutni | 1.774 mg/m³ (Izmerjeni podatki) | 0.177 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

**1.3.13. Izpostavljenost delavca: Handling of solid inorganic substances at ambient temperature (PROC 26)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 2.742 mg/m³ (Izmerjeni podatki) | 0.548 |
| Vdihavanje, lokalni, akutni | 2.742 mg/m³ (Izmerjeni podatki) | 0.274 |

**1.4. Smernice za nadaljnje uporabnike za ocenjevanje, ali delajo znotraj omejitev, določenih v scenariju izpostavljenosti**

**Poglavje 2. ES 2: Formuliranje ali prepakiranje**

**2.1. Naslov razdelka**

Ime ES: Formulation or re-packing; Distribution of substance

|  |  |
| --- | --- |
| **Okolje** |  |
| 1: Formulation into mixture | ERC 2 |
| **Delavec** |  |
| 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. Pogoji uporabe, ki vplivajo na izpostavljenost**

**2.2.1. Nadzor nad izpostavljenostjo delavca**

**Pogoji uporabe, veljavni za vse sodelujoče scenarije**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Tehnični in organizacijski pogoji in ukrepi** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Pogoji in ukrepi, povezani z osebno zaščito, higieno in oceno zdravstvenega varstva** |
| 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.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost delavcev** |
| Indoor use |
| Assumes process temperature up to 20 °C |

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**Posebni pogoji uporabe za vsak sodelujoči scenarij**

|  |  |
| --- | --- |
| **Prispevajoči scenarij** | **Posebni ukrepi** |
| ***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. Ocena izpostavljenosti in sklicevanje na njen vir**

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

**2.3.2. Izpostavljenost delavca: *Chemical production in closed continuous process with occasional controlled exposure.* (PROC 2)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.3. Izpostavljenost delavca: *Formulation in closed batch processes with occasional controlled exposure.* (PROC 3)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**2.3.4. Izpostavljenost delavca: *Chemical production where opportunity for exposure arises* (PROC 4)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.5. Izpostavljenost delavca: Mixing or blending in batch processes (PROC 5)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.9. Izpostavljenost delavca: Use as laboratory reagent (PROC 15, PROC 26)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.10. Izpostavljenost delavca: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.14. Izpostavljenost delavca: Manual maintenance (cleaning and repair) of machinery (PROC 28)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.2 |

**2.4. Smernice za nadaljnje uporabnike za ocenjevanje, ali delajo znotraj omejitev, določenih v scenariju izpostavljenosti**

**Poglavje 3. ES 3: Uporaba na industrijskih lokacijah; Različni sektorji (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. Naslov razdelka**

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

Sektor uporabe: Kmetijstvo, gozdarstvo, ribištvo (SU 1), Rudarstvo (brez dejavnosti na morju) (SU 2a), Dejavnosti na morju (SU 2b), Proizvodnja živil (SU 4), Proizvodnja tekstilij, usnja, krzna (SU 5), Proizvodnja vlaknin, papirja in izdelkov iz papirja (SU 6b), Proizvodnja razsutih kemikalij v velikem obsegu (vključno z naftnimi derivati) (SU 8), Proizvodnja čistih kemikalij (SU 9), Proizvodnja izdelkov iz gume (SU 11), Proizvodnja izdelkov iz umetnih mas, vključno z mešanjem in predelavo (SU 12), Proizvodnja drugih nekovinskih mineralnih izdelkov, npr. mavcev, cementa (SU 13), Proizvodnja osnovnih kovin, vključno z zlitinami (SU 14), Proizvodnja kovinskih izdelkov, razen strojev in naprav (SU 15), Proizvodnja računalnikov, elektronskih in optičnih izdelkov, električnih naprav (SU 16), Splošna proizvodnja, npr. strojev, naprav, vozil, druge transportne opreme (SU 17)

|  |  |
| --- | --- |
| **Okolje** |  |
| 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 |
| **Delavec** |  |
| 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. Pogoji uporabe, ki vplivajo na izpostavljenost**

**3.2.1. Nadzor nad izpostavljenostjo delavca**

**Pogoji uporabe, veljavni za vse sodelujoče scenarije**

|  |
| --- |
| **Tehnični in organizacijski pogoji in ukrepi** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Pogoji in ukrepi, povezani z osebno zaščito, higieno in oceno zdravstvenega varstva** |
| 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.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost delavcev** |
| Assumes process temperature up to 20 °C |

​

**Posebni pogoji uporabe za vsak sodelujoči scenarij**

|  |  |
| --- | --- |
| **Prispevajoči scenarij** | **Posebni ukrepi** |
| ***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. Ocena izpostavljenosti in sklicevanje na njen vir**

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.4. Izpostavljenost delavca: Chemical production where opportunity for exposure arises (PROC 4)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.5. Izpostavljenost delavca: Mixing or blending in batch processes (PROC 5)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.6. Izpostavljenost delavca: Calendering operations (PROC 6)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.7. Izpostavljenost delavca: Indoor use; Industrial spraying; Solid in solution (PROC 7)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.2 mg/m³ (ART) | 0.24 |
| Vdihavanje, lokalni, akutni | 9.6 mg/m³ (ART) | 0.96 |

**3.3.8. Izpostavljenost delavca: Outdoor use; Industrial spraying (PROC 7)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.2 mg/m³ (ART) | 0.24 |
| Vdihavanje, lokalni, akutni | 9.6 mg/m³ (ART) | 0.96 |

**3.3.9. Izpostavljenost delavca: Outdoor use; Industrial spraying (PROC 7)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.2 mg/m³ (ART) | 0.24 |
| Vdihavanje, lokalni, akutni | 9.6 mg/m³ (ART) | 0.96 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.05 mg/m³ (TRA Workers 3.0) | 0.01 |
| Vdihavanje, lokalni, akutni | 0.2 mg/m³ (TRA Workers 3.0) | 0.02 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.035 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.14 mg/m³ (TRA Workers 3.0) | 0.014 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.19. Izpostavljenost delavca: *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)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.21. Izpostavljenost delavca: Roller application or brushing (PROC 10)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.22. Izpostavljenost delavca: Treatment of articles by dipping and pouring (PROC 13)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.23. Izpostavljenost delavca: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.24. Izpostavljenost delavca: Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Vdihavanje, lokalni, akutni | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Vdihavanje, lokalni, akutni | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.03 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.12 mg/m³ (TRA Workers 3.0) | 0.012 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.5 mg/m³ (ECETOC TRA Workers) | 0.1 |
| Vdihavanje, lokalni, akutni | 2 mg/m³ (ECETOC TRA Workers) | 0.2 |

**3.4. Smernice za nadaljnje uporabnike za ocenjevanje, ali delajo znotraj omejitev, določenih v scenariju izpostavljenosti**

Orodje za skaliranje: 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.

**Poglavje 4. ES 4: Široko razširjena uporaba, ki jo izvajajo poklicni delavci; Različni sektorji (SU 0, SU 1, SU 13, SU 19, SU 20)**

**4.1. Naslov razdelka**

Ime ES: Professional use; Indoor use

Sektor uporabe: Drugo (SU 0), Kmetijstvo, gozdarstvo, ribištvo (SU 1), Proizvodnja drugih nekovinskih mineralnih izdelkov, npr. mavcev, cementa (SU 13), Gradbeništvo (SU 19), Zdravstvo (SU 20)

|  |  |
| --- | --- |
| **Okolje** |  |
| 1: Indoor use; Professional use | ERC 8a |
| **Delavec** |  |
| 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. Pogoji uporabe, ki vplivajo na izpostavljenost**

**4.2.1. Nadzor nad izpostavljenostjo delavca**

**Pogoji uporabe, veljavni za vse sodelujoče scenarije**

|  |
| --- |
| **Pogoji in ukrepi, povezani z osebno zaščito, higieno in oceno zdravstvenega varstva** |
| *Use suitable eye protection.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost delavcev** |
| Indoor use |
| Assumes process temperature up to 20 °C |

​

**Posebni pogoji uporabe za vsak sodelujoči scenarij**

|  |  |
| --- | --- |
| **Prispevajoči scenarij** | **Posebni ukrepi** |
| ***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. Ocena izpostavljenosti in sklicevanje na njen vir**

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.4. Izpostavljenost delavca: Chemical production where opportunity for exposure arises (PROC 4)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.5. Izpostavljenost delavca: Mixing or blending in batch processes (PROC 5)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.4 mg/m³ (TRA Workers 3.0) | 0.28 |
| Vdihavanje, lokalni, akutni | 5.6 mg/m³ (TRA Workers 3.0) | 0.56 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.9. Izpostavljenost delavca: Roller application or brushing (PROC 10)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.10. Izpostavljenost delavca: Indoor use; Non-industrial spraying; Solid in solution (PROC 11)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.2 mg/m³ (ART) | 0.24 |
| Vdihavanje, lokalni, akutni | 9.6 mg/m³ (ART) | 0.96 |

**4.3.11. Izpostavljenost delavca: Use as laboratory reagent (PROC 15, PROC 26)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.12. Izpostavljenost delavca: Manual activities involving hand contact (PROC 19)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.13. Izpostavljenost delavca: Use of functional fluids in small devices (PROC 20)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Vdihavanje, lokalni, akutni | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (ECETOC TRA Workers) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (ECETOC TRA Workers) | 0.28 |

**4.4. Smernice za nadaljnje uporabnike za ocenjevanje, ali delajo znotraj omejitev, določenih v scenariju izpostavljenosti**

Orodje za skaliranje: 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.

**Poglavje 5. ES 5: Široko razširjena uporaba, ki jo izvajajo poklicni delavci; Različni sektorji (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)**

**5.1. Naslov razdelka**

Ime ES: Professional use; Outdoor use

Sektor uporabe: Drugo (SU 0), Kmetijstvo, gozdarstvo, ribištvo (SU 1), Proizvodnja tekstilij, usnja, krzna (SU 5), Proizvodnja drugih nekovinskih mineralnih izdelkov, npr. mavcev, cementa (SU 13), Gradbeništvo (SU 19), Zdravstvo (SU 20)

|  |  |
| --- | --- |
| **Okolje** |  |
| 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC 8d |
| **Delavec** |  |
| 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. Pogoji uporabe, ki vplivajo na izpostavljenost**

**5.2.1. Nadzor nad izpostavljenostjo delavca**

**Pogoji uporabe, veljavni za vse sodelujoče scenarije**

|  |
| --- |
| **Drugi pogoji, ki vplivajo na izpostavljenost delavcev** |
| Outdoor use |
| Assumes process temperature up to 20 °C |

​

**Posebni pogoji uporabe za vsak sodelujoči scenarij**

|  |  |
| --- | --- |
| **Prispevajoči scenarij** | **Posebni ukrepi** |
| ***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. Ocena izpostavljenosti in sklicevanje na njen vir**

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 7E-3 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.028 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.4. Izpostavljenost delavca: Chemical production where opportunity for exposure arises (PROC 4)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.5. Izpostavljenost delavca: Mixing or blending in batch processes (PROC 5)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.9. Izpostavljenost delavca: Roller application or brushing (PROC 10)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.10. Izpostavljenost delavca: Outdoor use; Non-industrial spraying (PROC 11)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.2 mg/m³ (ART) | 0.24 |
| Vdihavanje, lokalni, akutni | 9.6 mg/m³ (ART) | 0.96 |

**5.3.11. Izpostavljenost delavca: Outdoor use; Non-industrial spraying (PROC 11)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 1.2 mg/m³ (ART) | 0.24 |
| Vdihavanje, lokalni, akutni | 9.6 mg/m³ (ART) | 0.96 |

**5.3.12. Izpostavljenost delavca: Use as laboratory reagent (PROC 15, PROC 26)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.13. Izpostavljenost delavca: Mixing operations; Manual activities involving hand contact (PROC 19)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Vdihavanje, lokalni, akutni | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.14. Izpostavljenost delavca: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.15. Izpostavljenost delavca: Use of functional fluids in small devices (PROC 20)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Vdihavanje, lokalni, akutni | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.4. Smernice za nadaljnje uporabnike za ocenjevanje, ali delajo znotraj omejitev, določenih v scenariju izpostavljenosti**

Navodila: 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.

**Poglavje 6. ES 6: Potrošniška uporaba; Različni produkti (PC 0, PC 2, PC 4, PC 12, PC 16, PC 27, PC 35, PC 37)**

**6.1. Naslov razdelka**

Ime ES: Consumer use; Indoor or outdoor use

Kategorija kemičnega izdelka: Drugo (PC 0), Adsorpcijska sredstva (PC 2), Izdelki proti zmrzovanju in za odmrzovanje (PC 4), Gnojila (PC 12), Tekočine za prenos toplote (PC 16), Fitofarmacevtska sredstva (PC 27), Izdelki za pranje in čiščenje (PC 35), Kemikalije za čiščenje vode (PC 37)

|  |  |
| --- | --- |
| **Okolje** |  |
| 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 |
| **Potrošnik** |  |
| 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. Pogoji uporabe, ki vplivajo na izpostavljenost**

**6.2.1. Nadzor nad izpostavljenostjo potrošnika: Dust suppressant; No spraying (PC 0)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.2. Nadzor nad izpostavljenostjo potrošnika: Dust suppressant; Spraying (PC 0)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| 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* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.3. Nadzor nad izpostavljenostjo potrošnika: *Humidity adsorbants* (PC 0)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.4. Nadzor nad izpostavljenostjo potrošnika: *Cement/concrete/mortar* (PC 0)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.5. Nadzor nad izpostavljenostjo potrošnika: Adsorbents (PC 2)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.6. Nadzor nad izpostavljenostjo potrošnika: Anti-freeze and de-icing products; No spraying (PC 4)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| 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* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.7. Nadzor nad izpostavljenostjo potrošnika: Anti-freeze and de-icing products; Spraying (PC 4)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| 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* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.8. Nadzor nad izpostavljenostjo potrošnika: Fertilizers; No spraying (PC 12)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.9. Nadzor nad izpostavljenostjo potrošnika: Fertilizers; Spraying (PC 12)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| 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* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.10. Nadzor nad izpostavljenostjo potrošnika: Heat transfer fluids (PC 16)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.11. Nadzor nad izpostavljenostjo potrošnika: Plant protection products; No spraying (PC 27)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.12. Nadzor nad izpostavljenostjo potrošnika: Plant protection products; Spraying (PC 27)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| 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* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.13. Nadzor nad izpostavljenostjo potrošnika: Water treatment chemicals (PC 37)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| *Covers exposure via inhalation route* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.14. Nadzor nad izpostavljenostjo potrošnika: Washing and cleaning products; No spraying (PC 35)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Drugi pogoji, ki vplivajo na izpostavljenost potrošnikov** |
| Release area <= 125 m2 |

**6.2.15. Nadzor nad izpostavljenostjo potrošnika: Washing and cleaning products; Spraying (PC 35)**

|  |
| --- |
| **Značilnosti proizvoda (izdelka)** |
| 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* |
| **Uporabljena količina, pogostost in trajanje uporabe/izpostavljenosti** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informacije in nasveti za ravnanje za potrošnike** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.3. Ocena izpostavljenosti in sklicevanje na njen vir**

**6.3.1. Izpostavljenost potrošnika: Dust suppressant; No spraying (PC 0)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.2. Izpostavljenost potrošnika: Dust suppressant; Spraying (PC 0)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Vdihavanje, lokalni, akutni | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.3. Izpostavljenost potrošnika: *Humidity adsorbants* (PC 0)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.4. Izpostavljenost potrošnika: *Cement/concrete/mortar* (PC 0)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.5. Izpostavljenost potrošnika: Adsorbents (PC 2)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.6. Izpostavljenost potrošnika: Anti-freeze and de-icing products; No spraying (PC 4)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.7. Izpostavljenost potrošnika: Anti-freeze and de-icing products; Spraying (PC 4)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Vdihavanje, lokalni, akutni | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.8. Izpostavljenost potrošnika: Fertilizers; No spraying (PC 12)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.9. Izpostavljenost potrošnika: Fertilizers; Spraying (PC 12)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Vdihavanje, lokalni, akutni | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.10. Izpostavljenost potrošnika: Heat transfer fluids (PC 16)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.11. Izpostavljenost potrošnika: Plant protection products; No spraying (PC 27)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.12. Izpostavljenost potrošnika: Plant protection products; Spraying (PC 27)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Vdihavanje, lokalni, akutni | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.13. Izpostavljenost potrošnika: Water treatment chemicals (PC 37)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.14. Izpostavljenost potrošnika: Washing and cleaning products; No spraying (PC 35)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Vdihavanje, lokalni, akutni | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.15. Izpostavljenost potrošnika: Washing and cleaning products; Spraying (PC 35)**

| **Način izpostavljenosti in vrsta učinkov** | **Ocena izpostavljenosti** | **RCR** |
| --- | --- | --- |
| Vdihavanje, lokalni, dolgoročni | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Vdihavanje, lokalni, akutni | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.4. Smernice za nadaljnje uporabnike za ocenjevanje, ali delajo znotraj omejitev, določenih v scenariju izpostavljenosti**