**TÁJÉKOZTATÁSRA VONATKOZÓ EXPOZÍCIÓS FORGATÓKÖNYVEK**

**Az anyag neve:** calcium chloride

**EK-szám:** 233-140-8

**CAS-szám:** 10043-52-4

**Regisztrációs Szám:**

**Létrehozás/átdolgozás dátuma:** 16/04/2020

**Szerző:** Apeiron-Team NV

**Tartalom**

[1. ES 1: Gyártás](#N10033) [#](#N10033)

[2. ES 2: Összeállítás vagy átcsomagolás](#N10449) [#](#N10449)

[3. ES 3: Ipari telephelyeken történő felhasználás; Különböző szektorok (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)](#N1097D) [#](#N1097D)

[4. ES 4: Foglalkozásszerű, elterjedt felhasználás; Különböző szektorok (SU 0, SU 1, SU 13, SU 19, SU 20)](#N11497) [#](#N11497)

[5. ES 5: Foglalkozásszerű, elterjedt felhasználás; Különböző szektorok (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)](#N11A79) [#](#N11A79)

[6. ES 6: Fogyasztói felhasználás; Különböző termékek (PC 0, PC 2, PC 4, PC 12, PC 16, PC 27, PC 35, PC 37)](#N120A3) [#](#N120A3)

**1. fejezet - ES 1: Gyártás**

**1.1. A szakasz címe**

ES név: Manufacture

|  |  |
| --- | --- |
| **Környezet** |  |
| 1: *Manufacturing of substances* | ERC 1 |
| **Munkavállaló** |  |
| 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. Az expozíciót befolyásoló felhasználási feltételek**

**1.2.1. Munkavállalói expozíció ellenőrzése**

**Valamennyi releváns forgatókönyvre alkalmazandó felhasználási feltételek**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség (vagy az árucikkekben található mennyiség), a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 8 h/day |
| **Technikai és szervezeti feltételek és intézkedések** |
| 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. |
| **Személyi védelemre, higiéniára és egészségügyi értékelésre vonatkozó feltételek és intézkedések** |
| 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. |
| **A munkavállalókat érő expozíciót befolyásoló egyéb feltételek** |
| Indoor use |
| Assumes process temperature up to 20 °C |

**1.3. Expozíciós becslés a forrásra utaló hivatkozással**

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.774 mg/m³ (Mért adatok) | 0.355 |
| Belélegzés, helyi, akut | 1.774 mg/m³ (Mért adatok) | 0.177 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.774 mg/m³ (Mért adatok) | 0.355 |
| Belélegzés, helyi, akut | 1.774 mg/m³ (Mért adatok) | 0.177 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.774 mg/m³ (Mért adatok) | 0.355 |
| Belélegzés, helyi, akut | 1.774 mg/m³ (Mért adatok) | 0.177 |

**1.3.4. Munkavállaló expozíciója: Chemical production where opportunity for exposure arises (PROC 4)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.881 mg/m³ (Mért adatok) | 0.376 |
| Belélegzés, helyi, akut | 1.881 mg/m³ (Mért adatok) | 0.188 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

**1.3.8. Munkavállaló expozíciója: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

**1.3.9. Munkavállaló expozíciója: Use as laboratory reagent (PROC 15, PROC 26)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.774 mg/m³ (Mért adatok) | 0.355 |
| Belélegzés, helyi, akut | 1.774 mg/m³ (Mért adatok) | 0.177 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 2.742 mg/m³ (Mért adatok) | 0.548 |
| Belélegzés, helyi, akut | 2.742 mg/m³ (Mért adatok) | 0.274 |

**1.4. Útmutatás a továbbfelhasználó részére, amelynek alapján eldöntheti, hogy az expozíciós forgatókönyv által meghatározott kereteken belül dolgozik-e**

**2. fejezet - ES 2: Összeállítás vagy átcsomagolás**

**2.1. A szakasz címe**

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

|  |  |
| --- | --- |
| **Környezet** |  |
| 1: Formulation into mixture | ERC 2 |
| **Munkavállaló** |  |
| 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. Az expozíciót befolyásoló felhasználási feltételek**

**2.2.1. Munkavállalói expozíció ellenőrzése**

**Valamennyi releváns forgatókönyvre alkalmazandó felhasználási feltételek**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Technikai és szervezeti feltételek és intézkedések** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Személyi védelemre, higiéniára és egészségügyi értékelésre vonatkozó feltételek és intézkedések** |
| 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.* |
| **A munkavállalókat érő expozíciót befolyásoló egyéb feltételek** |
| Indoor use |
| Assumes process temperature up to 20 °C |

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**Releváns forgatókönyvenkénti különleges felhasználási feltételek**

|  |  |
| --- | --- |
| **Hozzájáruló tevékenységre vonatkozó forgatókönyv** | **Különleges intézkedések** |
| ***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. Expozíciós becslés a forrásra utaló hivatkozással**

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Belélegzés, helyi, akut | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**2.3.4. Munkavállaló expozíciója: *Chemical production where opportunity for exposure arises* (PROC 4)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.5. Munkavállaló expozíciója: Mixing or blending in batch processes (PROC 5)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.9. Munkavállaló expozíciója: Use as laboratory reagent (PROC 15, PROC 26)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.10. Munkavállaló expozíciója: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.14. Munkavállaló expozíciója: Manual maintenance (cleaning and repair) of machinery (PROC 28)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.2 |

**2.4. Útmutatás a továbbfelhasználó részére, amelynek alapján eldöntheti, hogy az expozíciós forgatókönyv által meghatározott kereteken belül dolgozik-e**

**3. fejezet - ES 3: Ipari telephelyeken történő felhasználás; Különböző szektorok (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. A szakasz címe**

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

Felhasználási tevékenységet végző ágazat: Mezőgazdaság, erdőgazdálkodás, halászat (SU 1), Bányászat (kivéve a partközeli, azaz offshore ipari tevékenységeket) (SU 2a), Partközeli, azaz offshore ipari tevékenységek (SU 2b), Élelmiszeripari termékek gyártása (SU 4), Textíliák, bőr, prém gyártása (SU 5), Pép, papír és papíripari termékek gyártása (SU 6b), Vegyi anyagok nagy tételekben, nagy arányban végzett gyártása (ideértve a kőolajipari termékeket is) (SU 8), Finomkémiai termékek gyártása (SU 9), Gumiipari termékek gyártása (SU 11), Műanyagipari termékek gyártása, ideértve az összekapcsolást és az átalakítást is (SU 12), Egyéb nemfém ásványi termékek, pl. gipsz, cement gyártása (SU 13), Fémalapanyagok gyártása, beleértve az ötvözeteket (SU 14), Feldolgozott fémtermékek gyártása a gépek és berendezések kivételével (SU 15), Számítógépek, elektronikai és elektromos termékek, elektromos berendezések gyártása (SU 16), Általános gyártás, például gépeké, berendezéseké, járműveké és egyéb közlekedési eszközöké (SU 17)

|  |  |
| --- | --- |
| **Környezet** |  |
| 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 |
| **Munkavállaló** |  |
| 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. Az expozíciót befolyásoló felhasználási feltételek**

**3.2.1. Munkavállalói expozíció ellenőrzése**

**Valamennyi releváns forgatókönyvre alkalmazandó felhasználási feltételek**

|  |
| --- |
| **Technikai és szervezeti feltételek és intézkedések** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Személyi védelemre, higiéniára és egészségügyi értékelésre vonatkozó feltételek és intézkedések** |
| 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.* |
| **A munkavállalókat érő expozíciót befolyásoló egyéb feltételek** |
| Assumes process temperature up to 20 °C |

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**Releváns forgatókönyvenkénti különleges felhasználási feltételek**

|  |  |
| --- | --- |
| **Hozzájáruló tevékenységre vonatkozó forgatókönyv** | **Különleges intézkedések** |
| ***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. Expozíciós becslés a forrásra utaló hivatkozással**

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Belélegzés, helyi, akut | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.4. Munkavállaló expozíciója: Chemical production where opportunity for exposure arises (PROC 4)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.5. Munkavállaló expozíciója: Mixing or blending in batch processes (PROC 5)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.6. Munkavállaló expozíciója: Calendering operations (PROC 6)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.2 mg/m³ (ART) | 0.24 |
| Belélegzés, helyi, akut | 9.6 mg/m³ (ART) | 0.96 |

**3.3.8. Munkavállaló expozíciója: Outdoor use; Industrial spraying (PROC 7)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.2 mg/m³ (ART) | 0.24 |
| Belélegzés, helyi, akut | 9.6 mg/m³ (ART) | 0.96 |

**3.3.9. Munkavállaló expozíciója: Outdoor use; Industrial spraying (PROC 7)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.2 mg/m³ (ART) | 0.24 |
| Belélegzés, helyi, akut | 9.6 mg/m³ (ART) | 0.96 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.05 mg/m³ (TRA Workers 3.0) | 0.01 |
| Belélegzés, helyi, akut | 0.2 mg/m³ (TRA Workers 3.0) | 0.02 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.035 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Belélegzés, helyi, akut | 0.14 mg/m³ (TRA Workers 3.0) | 0.014 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.19. Munkavállaló expozíciója: *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)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.21. Munkavállaló expozíciója: Roller application or brushing (PROC 10)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.22. Munkavállaló expozíciója: Treatment of articles by dipping and pouring (PROC 13)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.23. Munkavállaló expozíciója: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Belélegzés, helyi, akut | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Belélegzés, helyi, akut | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.03 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Belélegzés, helyi, akut | 0.12 mg/m³ (TRA Workers 3.0) | 0.012 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.5 mg/m³ (ECETOC TRA Workers) | 0.1 |
| Belélegzés, helyi, akut | 2 mg/m³ (ECETOC TRA Workers) | 0.2 |

**3.4. Útmutatás a továbbfelhasználó részére, amelynek alapján eldöntheti, hogy az expozíciós forgatókönyv által meghatározott kereteken belül dolgozik-e**

Arányosítási eszköz: 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.

**4. fejezet - ES 4: Foglalkozásszerű, elterjedt felhasználás; Különböző szektorok (SU 0, SU 1, SU 13, SU 19, SU 20)**

**4.1. A szakasz címe**

ES név: Professional use; Indoor use

Felhasználási tevékenységet végző ágazat: Egyéb (SU 0), Mezőgazdaság, erdőgazdálkodás, halászat (SU 1), Egyéb nemfém ásványi termékek, pl. gipsz, cement gyártása (SU 13), Építési és szerelőipari munkák (SU 19), Egészségügyi szolgáltatások (SU 20)

|  |  |
| --- | --- |
| **Környezet** |  |
| 1: Indoor use; Professional use | ERC 8a |
| **Munkavállaló** |  |
| 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. Az expozíciót befolyásoló felhasználási feltételek**

**4.2.1. Munkavállalói expozíció ellenőrzése**

**Valamennyi releváns forgatókönyvre alkalmazandó felhasználási feltételek**

|  |
| --- |
| **Személyi védelemre, higiéniára és egészségügyi értékelésre vonatkozó feltételek és intézkedések** |
| *Use suitable eye protection.* |
| **A munkavállalókat érő expozíciót befolyásoló egyéb feltételek** |
| Indoor use |
| Assumes process temperature up to 20 °C |

​

**Releváns forgatókönyvenkénti különleges felhasználási feltételek**

|  |  |
| --- | --- |
| **Hozzájáruló tevékenységre vonatkozó forgatókönyv** | **Különleges intézkedések** |
| ***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. Expozíciós becslés a forrásra utaló hivatkozással**

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Belélegzés, helyi, akut | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.4. Munkavállaló expozíciója: Chemical production where opportunity for exposure arises (PROC 4)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.5. Munkavállaló expozíciója: Mixing or blending in batch processes (PROC 5)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.4 mg/m³ (TRA Workers 3.0) | 0.28 |
| Belélegzés, helyi, akut | 5.6 mg/m³ (TRA Workers 3.0) | 0.56 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.9. Munkavállaló expozíciója: Roller application or brushing (PROC 10)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.2 mg/m³ (ART) | 0.24 |
| Belélegzés, helyi, akut | 9.6 mg/m³ (ART) | 0.96 |

**4.3.11. Munkavállaló expozíciója: Use as laboratory reagent (PROC 15, PROC 26)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.12. Munkavállaló expozíciója: Manual activities involving hand contact (PROC 19)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.13. Munkavállaló expozíciója: Use of functional fluids in small devices (PROC 20)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Belélegzés, helyi, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (ECETOC TRA Workers) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (ECETOC TRA Workers) | 0.28 |

**4.4. Útmutatás a továbbfelhasználó részére, amelynek alapján eldöntheti, hogy az expozíciós forgatókönyv által meghatározott kereteken belül dolgozik-e**

Arányosítási eszköz: 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.

**5. fejezet - ES 5: Foglalkozásszerű, elterjedt felhasználás; Különböző szektorok (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)**

**5.1. A szakasz címe**

ES név: Professional use; Outdoor use

Felhasználási tevékenységet végző ágazat: Egyéb (SU 0), Mezőgazdaság, erdőgazdálkodás, halászat (SU 1), Textíliák, bőr, prém gyártása (SU 5), Egyéb nemfém ásványi termékek, pl. gipsz, cement gyártása (SU 13), Építési és szerelőipari munkák (SU 19), Egészségügyi szolgáltatások (SU 20)

|  |  |
| --- | --- |
| **Környezet** |  |
| 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC 8d |
| **Munkavállaló** |  |
| 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. Az expozíciót befolyásoló felhasználási feltételek**

**5.2.1. Munkavállalói expozíció ellenőrzése**

**Valamennyi releváns forgatókönyvre alkalmazandó felhasználási feltételek**

|  |
| --- |
| **A munkavállalókat érő expozíciót befolyásoló egyéb feltételek** |
| Outdoor use |
| Assumes process temperature up to 20 °C |

​

**Releváns forgatókönyvenkénti különleges felhasználási feltételek**

|  |  |
| --- | --- |
| **Hozzájáruló tevékenységre vonatkozó forgatókönyv** | **Különleges intézkedések** |
| ***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. Expozíciós becslés a forrásra utaló hivatkozással**

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 7E-3 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Belélegzés, helyi, akut | 0.028 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.4. Munkavállaló expozíciója: Chemical production where opportunity for exposure arises (PROC 4)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.5. Munkavállaló expozíciója: Mixing or blending in batch processes (PROC 5)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.9. Munkavállaló expozíciója: Roller application or brushing (PROC 10)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.10. Munkavállaló expozíciója: Outdoor use; Non-industrial spraying (PROC 11)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.2 mg/m³ (ART) | 0.24 |
| Belélegzés, helyi, akut | 9.6 mg/m³ (ART) | 0.96 |

**5.3.11. Munkavállaló expozíciója: Outdoor use; Non-industrial spraying (PROC 11)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 1.2 mg/m³ (ART) | 0.24 |
| Belélegzés, helyi, akut | 9.6 mg/m³ (ART) | 0.96 |

**5.3.12. Munkavállaló expozíciója: Use as laboratory reagent (PROC 15, PROC 26)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Belélegzés, helyi, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.15. Munkavállaló expozíciója: Use of functional fluids in small devices (PROC 20)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Belélegzés, helyi, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.4. Útmutatás a továbbfelhasználó részére, amelynek alapján eldöntheti, hogy az expozíciós forgatókönyv által meghatározott kereteken belül dolgozik-e**

Iránymutatás: 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.

**6. fejezet - ES 6: Fogyasztói felhasználás; Különböző termékek (PC 0, PC 2, PC 4, PC 12, PC 16, PC 27, PC 35, PC 37)**

**6.1. A szakasz címe**

ES név: Consumer use; Indoor or outdoor use

Termék kategória: Egyéb (PC 0), Adszorbensek (PC 2), Fagyásgátló és fagymentesítő termékek (PC 4), Műtrágyák (PC 12), Hőátadó közegként használt folyadékok (PC 16), Növényvédő szerek (PC 27), Mosó- és tisztítószerek (PC 35), Vízkezelési vegyszerek (PC 37)

|  |  |
| --- | --- |
| **Környezet** |  |
| 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 |
| **Fogyasztó** |  |
| 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. Az expozíciót befolyásoló felhasználási feltételek**

**6.2.1. Fogyasztói expozíció ellenőrzése: Dust suppressant; No spraying (PC 0)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.2. Fogyasztói expozíció ellenőrzése: Dust suppressant; Spraying (PC 0)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| 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* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.3. Fogyasztói expozíció ellenőrzése: *Humidity adsorbants* (PC 0)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.4. Fogyasztói expozíció ellenőrzése: *Cement/concrete/mortar* (PC 0)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.5. Fogyasztói expozíció ellenőrzése: Adsorbents (PC 2)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.6. Fogyasztói expozíció ellenőrzése: Anti-freeze and de-icing products; No spraying (PC 4)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| 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* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.7. Fogyasztói expozíció ellenőrzése: Anti-freeze and de-icing products; Spraying (PC 4)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| 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* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.8. Fogyasztói expozíció ellenőrzése: Fertilizers; No spraying (PC 12)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.9. Fogyasztói expozíció ellenőrzése: Fertilizers; Spraying (PC 12)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| 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* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.10. Fogyasztói expozíció ellenőrzése: Heat transfer fluids (PC 16)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.11. Fogyasztói expozíció ellenőrzése: Plant protection products; No spraying (PC 27)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.12. Fogyasztói expozíció ellenőrzése: Plant protection products; Spraying (PC 27)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| 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* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.13. Fogyasztói expozíció ellenőrzése: Water treatment chemicals (PC 37)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| *Covers exposure via inhalation route* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.14. Fogyasztói expozíció ellenőrzése: Washing and cleaning products; No spraying (PC 35)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **A fogyasztókat érő expozíciót befolyásoló egyéb feltételek** |
| Release area <= 125 m2 |

**6.2.15. Fogyasztói expozíció ellenőrzése: Washing and cleaning products; Spraying (PC 35)**

|  |
| --- |
| **Termék- (árucikk-) jellemzők** |
| 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* |
| **Felhasznált mennyiség, a felhasználás/expozíció gyakorisága és időtartama** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Tájékoztatás és felhasználási tanácsok fogyasztóknak** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.3. Expozíciós becslés a forrásra utaló hivatkozással**

**6.3.1. Fogyasztói expozíció: Dust suppressant; No spraying (PC 0)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.2. Fogyasztói expozíció: Dust suppressant; Spraying (PC 0)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Belélegzés, helyi, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.3. Fogyasztói expozíció: *Humidity adsorbants* (PC 0)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.4. Fogyasztói expozíció: *Cement/concrete/mortar* (PC 0)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.5. Fogyasztói expozíció: Adsorbents (PC 2)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Belélegzés, helyi, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.8. Fogyasztói expozíció: Fertilizers; No spraying (PC 12)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.9. Fogyasztói expozíció: Fertilizers; Spraying (PC 12)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Belélegzés, helyi, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.10. Fogyasztói expozíció: Heat transfer fluids (PC 16)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.11. Fogyasztói expozíció: Plant protection products; No spraying (PC 27)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.12. Fogyasztói expozíció: Plant protection products; Spraying (PC 27)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Belélegzés, helyi, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.13. Fogyasztói expozíció: Water treatment chemicals (PC 37)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.14. Fogyasztói expozíció: Washing and cleaning products; No spraying (PC 35)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Belélegzés, helyi, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.15. Fogyasztói expozíció: Washing and cleaning products; Spraying (PC 35)**

| **Expozíciós út és a hatások típusa** | **Expozíciós becslés** | **RCR** |
| --- | --- | --- |
| Belélegzés, helyi, hosszú távú | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Belélegzés, helyi, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.4. Útmutatás a továbbfelhasználó részére, amelynek alapján eldöntheti, hogy az expozíciós forgatókönyv által meghatározott kereteken belül dolgozik-e**