**EXPOZIČNÝ SCENÁR KOMUNIKÁCIE**

**Názov látky:** calcium chloride

**EC číslo:** 233-140-8

**Číslo CAS:** 10043-52-4

**Registračné Číslo:**

**Dátum vytvorenia/revízie:** 16/04/2020

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**Kapitola 1. ES 1: Výroba**

**1.1. Názvová časť**

Názov expozičného scenára: Manufacture

|  |  |
| --- | --- |
| **Životné prostredie** |  |
| 1: *Manufacturing of substances* | ERC 1 |
| **Pracovník** |  |
| 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. Podmienky použitia, ktoré majú vplyv na expozíciu**

**1.2.1. Kontrola expozície pracovníkov**

**Podmienky použitia aplikovateľné na všetky prispievajúce scenáre**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo (alebo obsiahnuté vo výrobkoch), frekvencia a trvanie použitia/expozície** |
| Covers use up to 8 h/day |
| **Technické a organizačné podmienky a opatrenia** |
| 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. |
| **Podmienky a opatrenia, ktoré sa týkajú osobnej ochrany, hygieny a hodnotenia zdravia** |
| 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. |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu pracovníkov** |
| Indoor use |
| Assumes process temperature up to 20 °C |

**1.3. Odhad expozície a odkaz na príslušný zdroj**

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.774 mg/m³ (Namerané údaje) | 0.355 |
| Inhalačná, lokálna, akútna | 1.774 mg/m³ (Namerané údaje) | 0.177 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.774 mg/m³ (Namerané údaje) | 0.355 |
| Inhalačná, lokálna, akútna | 1.774 mg/m³ (Namerané údaje) | 0.177 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.774 mg/m³ (Namerané údaje) | 0.355 |
| Inhalačná, lokálna, akútna | 1.774 mg/m³ (Namerané údaje) | 0.177 |

**1.3.4. Expozícia pracovníkov: Chemical production where opportunity for exposure arises (PROC 4)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.881 mg/m³ (Namerané údaje) | 0.376 |
| Inhalačná, lokálna, akútna | 1.881 mg/m³ (Namerané údaje) | 0.188 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

**1.3.8. Expozícia pracovníkov: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

**1.3.9. Expozícia pracovníkov: Use as laboratory reagent (PROC 15, PROC 26)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.774 mg/m³ (Namerané údaje) | 0.355 |
| Inhalačná, lokálna, akútna | 1.774 mg/m³ (Namerané údaje) | 0.177 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 2.742 mg/m³ (Namerané údaje) | 0.548 |
| Inhalačná, lokálna, akútna | 2.742 mg/m³ (Namerané údaje) | 0.274 |

**1.4. Usmernenie pre následného užívateľa k vykonávaniu hodnotenia, či pracuje v rámci hraníc vymedzených expozičným scenárom**

**Kapitola 2. ES 2: Formulovanie alebo prebaľovanie**

**2.1. Názvová časť**

Názov expozičného scenára: Formulation or re-packing; Distribution of substance

|  |  |
| --- | --- |
| **Životné prostredie** |  |
| 1: Formulation into mixture | ERC 2 |
| **Pracovník** |  |
| 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. Podmienky použitia, ktoré majú vplyv na expozíciu**

**2.2.1. Kontrola expozície pracovníkov**

**Podmienky použitia aplikovateľné na všetky prispievajúce scenáre**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Technické a organizačné podmienky a opatrenia** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Podmienky a opatrenia, ktoré sa týkajú osobnej ochrany, hygieny a hodnotenia zdravia** |
| 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.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu pracovníkov** |
| Indoor use |
| Assumes process temperature up to 20 °C |

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**Konkrétne podmienky použitia na jeden prispievajúci scenár**

|  |  |
| --- | --- |
| **Čiastkový scenár** | **Osobitné opatrenia** |
| ***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. Odhad expozície a odkaz na príslušný zdroj**

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**2.3.4. Expozícia pracovníkov: *Chemical production where opportunity for exposure arises* (PROC 4)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.5. Expozícia pracovníkov: Mixing or blending in batch processes (PROC 5)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.9. Expozícia pracovníkov: Use as laboratory reagent (PROC 15, PROC 26)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.10. Expozícia pracovníkov: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.14. Expozícia pracovníkov: Manual maintenance (cleaning and repair) of machinery (PROC 28)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.2 |

**2.4. Usmernenie pre následného užívateľa k vykonávaniu hodnotenia, či pracuje v rámci hraníc vymedzených expozičným scenárom**

**Kapitola 3. ES 3: Použitie v priemyselných podnikoch; Rôzne sektory (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. Názvová časť**

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

Sektor použitia: Poľnohospodárstvo, lesníctvo, rybolov (SU 1), Baníctvo (okrem odvetví blízko pobrežia) (SU 2a), Odvetvia blízko pobrežia (SU 2b), Výroba potravinárskych produktov (SU 4), Výroba textilu, kože, kožušín (SU 5), Výroba buničiny, papiera a produktov z papiera (SU 6b), Výroba veľkoobjemových chemických látok vo veľkom rozsahu (vrátane ropných produktov) (SU 8), Výroba čistých chemikálií (SU 9), Výroba produktov z gumy (SU 11), Výroba produktov z plastov vrátane zlučovania a konverzie (SU 12), Výroba iných nekovových minerálnych produktov, napr. omietok, cementu (SU 13), Výroba základných kovov vrátane zliatin (SU 14), Výroba montovaných kovových produktov okrem strojných zariadení a vybavenia (SU 15), Výroba počítačových, elektronických a optických produktov, elektrické vybavenie (SU 16), Hlavná výroba, napr. stroje, vybavenie, vozidlá, iné prepravné vybavenie (SU 17)

|  |  |
| --- | --- |
| **Životné prostredie** |  |
| 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 |
| **Pracovník** |  |
| 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. Podmienky použitia, ktoré majú vplyv na expozíciu**

**3.2.1. Kontrola expozície pracovníkov**

**Podmienky použitia aplikovateľné na všetky prispievajúce scenáre**

|  |
| --- |
| **Technické a organizačné podmienky a opatrenia** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Podmienky a opatrenia, ktoré sa týkajú osobnej ochrany, hygieny a hodnotenia zdravia** |
| 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.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu pracovníkov** |
| Assumes process temperature up to 20 °C |

​

**Konkrétne podmienky použitia na jeden prispievajúci scenár**

|  |  |
| --- | --- |
| **Čiastkový scenár** | **Osobitné opatrenia** |
| ***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. Odhad expozície a odkaz na príslušný zdroj**

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.4. Expozícia pracovníkov: Chemical production where opportunity for exposure arises (PROC 4)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.5. Expozícia pracovníkov: Mixing or blending in batch processes (PROC 5)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.6. Expozícia pracovníkov: Calendering operations (PROC 6)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.2 mg/m³ (ART) | 0.24 |
| Inhalačná, lokálna, akútna | 9.6 mg/m³ (ART) | 0.96 |

**3.3.8. Expozícia pracovníkov: Outdoor use; Industrial spraying (PROC 7)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.2 mg/m³ (ART) | 0.24 |
| Inhalačná, lokálna, akútna | 9.6 mg/m³ (ART) | 0.96 |

**3.3.9. Expozícia pracovníkov: Outdoor use; Industrial spraying (PROC 7)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.2 mg/m³ (ART) | 0.24 |
| Inhalačná, lokálna, akútna | 9.6 mg/m³ (ART) | 0.96 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.05 mg/m³ (TRA Workers 3.0) | 0.01 |
| Inhalačná, lokálna, akútna | 0.2 mg/m³ (TRA Workers 3.0) | 0.02 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.035 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.14 mg/m³ (TRA Workers 3.0) | 0.014 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.19. Expozícia pracovníkov: *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)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.21. Expozícia pracovníkov: Roller application or brushing (PROC 10)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.22. Expozícia pracovníkov: Treatment of articles by dipping and pouring (PROC 13)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.23. Expozícia pracovníkov: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalačná, lokálna, akútna | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalačná, lokálna, akútna | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.03 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.12 mg/m³ (TRA Workers 3.0) | 0.012 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.5 mg/m³ (ECETOC TRA Workers) | 0.1 |
| Inhalačná, lokálna, akútna | 2 mg/m³ (ECETOC TRA Workers) | 0.2 |

**3.4. Usmernenie pre následného užívateľa k vykonávaniu hodnotenia, či pracuje v rámci hraníc vymedzených expozičným scenárom**

Nástroj na úpravu meradla: 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.

**Kapitola 4. ES 4: Rozsiahle použitie profesionálnymi pracovníkmi; Rôzne sektory (SU 0, SU 1, SU 13, SU 19, SU 20)**

**4.1. Názvová časť**

Názov expozičného scenára: Professional use; Indoor use

Sektor použitia: Iné (SU 0), Poľnohospodárstvo, lesníctvo, rybolov (SU 1), Výroba iných nekovových minerálnych produktov, napr. omietok, cementu (SU 13), Stavebné a konštrukčné práce (SU 19), Zdravotné služby (SU 20)

|  |  |
| --- | --- |
| **Životné prostredie** |  |
| 1: Indoor use; Professional use | ERC 8a |
| **Pracovník** |  |
| 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. Podmienky použitia, ktoré majú vplyv na expozíciu**

**4.2.1. Kontrola expozície pracovníkov**

**Podmienky použitia aplikovateľné na všetky prispievajúce scenáre**

|  |
| --- |
| **Podmienky a opatrenia, ktoré sa týkajú osobnej ochrany, hygieny a hodnotenia zdravia** |
| *Use suitable eye protection.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu pracovníkov** |
| Indoor use |
| Assumes process temperature up to 20 °C |

​

**Konkrétne podmienky použitia na jeden prispievajúci scenár**

|  |  |
| --- | --- |
| **Čiastkový scenár** | **Osobitné opatrenia** |
| ***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. Odhad expozície a odkaz na príslušný zdroj**

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.4. Expozícia pracovníkov: Chemical production where opportunity for exposure arises (PROC 4)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.5. Expozícia pracovníkov: Mixing or blending in batch processes (PROC 5)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.4 mg/m³ (TRA Workers 3.0) | 0.28 |
| Inhalačná, lokálna, akútna | 5.6 mg/m³ (TRA Workers 3.0) | 0.56 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.9. Expozícia pracovníkov: Roller application or brushing (PROC 10)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.2 mg/m³ (ART) | 0.24 |
| Inhalačná, lokálna, akútna | 9.6 mg/m³ (ART) | 0.96 |

**4.3.11. Expozícia pracovníkov: Use as laboratory reagent (PROC 15, PROC 26)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.12. Expozícia pracovníkov: Manual activities involving hand contact (PROC 19)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.13. Expozícia pracovníkov: Use of functional fluids in small devices (PROC 20)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalačná, lokálna, akútna | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (ECETOC TRA Workers) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (ECETOC TRA Workers) | 0.28 |

**4.4. Usmernenie pre následného užívateľa k vykonávaniu hodnotenia, či pracuje v rámci hraníc vymedzených expozičným scenárom**

Nástroj na úpravu meradla: 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.

**Kapitola 5. ES 5: Rozsiahle použitie profesionálnymi pracovníkmi; Rôzne sektory (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)**

**5.1. Názvová časť**

Názov expozičného scenára: Professional use; Outdoor use

Sektor použitia: Iné (SU 0), Poľnohospodárstvo, lesníctvo, rybolov (SU 1), Výroba textilu, kože, kožušín (SU 5), Výroba iných nekovových minerálnych produktov, napr. omietok, cementu (SU 13), Stavebné a konštrukčné práce (SU 19), Zdravotné služby (SU 20)

|  |  |
| --- | --- |
| **Životné prostredie** |  |
| 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC 8d |
| **Pracovník** |  |
| 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. Podmienky použitia, ktoré majú vplyv na expozíciu**

**5.2.1. Kontrola expozície pracovníkov**

**Podmienky použitia aplikovateľné na všetky prispievajúce scenáre**

|  |
| --- |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu pracovníkov** |
| Outdoor use |
| Assumes process temperature up to 20 °C |

​

**Konkrétne podmienky použitia na jeden prispievajúci scenár**

|  |  |
| --- | --- |
| **Čiastkový scenár** | **Osobitné opatrenia** |
| ***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. Odhad expozície a odkaz na príslušný zdroj**

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 7E-3 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.028 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.4. Expozícia pracovníkov: Chemical production where opportunity for exposure arises (PROC 4)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.5. Expozícia pracovníkov: Mixing or blending in batch processes (PROC 5)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.9. Expozícia pracovníkov: Roller application or brushing (PROC 10)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.10. Expozícia pracovníkov: Outdoor use; Non-industrial spraying (PROC 11)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.2 mg/m³ (ART) | 0.24 |
| Inhalačná, lokálna, akútna | 9.6 mg/m³ (ART) | 0.96 |

**5.3.11. Expozícia pracovníkov: Outdoor use; Non-industrial spraying (PROC 11)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 1.2 mg/m³ (ART) | 0.24 |
| Inhalačná, lokálna, akútna | 9.6 mg/m³ (ART) | 0.96 |

**5.3.12. Expozícia pracovníkov: Use as laboratory reagent (PROC 15, PROC 26)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalačná, lokálna, akútna | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.15. Expozícia pracovníkov: Use of functional fluids in small devices (PROC 20)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalačná, lokálna, akútna | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.4. Usmernenie pre následného užívateľa k vykonávaniu hodnotenia, či pracuje v rámci hraníc vymedzených expozičným scenárom**

Usmernenie: 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.

**Kapitola 6. ES 6: Spotrebiteľské použitie; Rôzne výrobky (PC 0, PC 2, PC 4, PC 12, PC 16, PC 27, PC 35, PC 37)**

**6.1. Názvová časť**

Názov expozičného scenára: Consumer use; Indoor or outdoor use

Kategória produktov: Iné (PC 0), Adsorbenty (PC 2), Nemrznúce a odmrazovacie produkty (PC 4), Hnojivá (PC 12), Kvapaliny prenášajúce teplo (PC 16), Prípravky na ochranu rastlín (PC 27), Produkty na umývanie a čistenie (PC 35), Chemikálie na úpravu vody (PC 37)

|  |  |
| --- | --- |
| **Životné prostredie** |  |
| 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 |
| **Spotrebitelia** |  |
| 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. Podmienky použitia, ktoré majú vplyv na expozíciu**

**6.2.1. Kontrola expozície spotrebiteľov: Dust suppressant; No spraying (PC 0)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.2. Kontrola expozície spotrebiteľov: Dust suppressant; Spraying (PC 0)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| 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* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.3. Kontrola expozície spotrebiteľov: *Humidity adsorbants* (PC 0)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.4. Kontrola expozície spotrebiteľov: *Cement/concrete/mortar* (PC 0)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.5. Kontrola expozície spotrebiteľov: Adsorbents (PC 2)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.6. Kontrola expozície spotrebiteľov: Anti-freeze and de-icing products; No spraying (PC 4)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| 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* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.7. Kontrola expozície spotrebiteľov: Anti-freeze and de-icing products; Spraying (PC 4)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| 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* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.8. Kontrola expozície spotrebiteľov: Fertilizers; No spraying (PC 12)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.9. Kontrola expozície spotrebiteľov: Fertilizers; Spraying (PC 12)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| 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* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.10. Kontrola expozície spotrebiteľov: Heat transfer fluids (PC 16)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.11. Kontrola expozície spotrebiteľov: Plant protection products; No spraying (PC 27)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.12. Kontrola expozície spotrebiteľov: Plant protection products; Spraying (PC 27)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| 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* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.13. Kontrola expozície spotrebiteľov: Water treatment chemicals (PC 37)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| *Covers exposure via inhalation route* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.14. Kontrola expozície spotrebiteľov: Washing and cleaning products; No spraying (PC 35)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Ostatné podmienky, ktoré ovplyvňujú expozíciu spotrebiteľov** |
| Release area <= 125 m2 |

**6.2.15. Kontrola expozície spotrebiteľov: Washing and cleaning products; Spraying (PC 35)**

|  |
| --- |
| **Charakteristika produktu (výrobku)** |
| 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* |
| **Použité množstvo, frekvencia a trvanie použitia/expozície** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Informácie a pokyny k správaniu pre spotrebiteľov** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.3. Odhad expozície a odkaz na príslušný zdroj**

**6.3.1. Expozícia spotrebiteľov: Dust suppressant; No spraying (PC 0)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.2. Expozícia spotrebiteľov: Dust suppressant; Spraying (PC 0)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalačná, lokálna, akútna | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.3. Expozícia spotrebiteľov: *Humidity adsorbants* (PC 0)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.4. Expozícia spotrebiteľov: *Cement/concrete/mortar* (PC 0)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.5. Expozícia spotrebiteľov: Adsorbents (PC 2)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalačná, lokálna, akútna | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.8. Expozícia spotrebiteľov: Fertilizers; No spraying (PC 12)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.9. Expozícia spotrebiteľov: Fertilizers; Spraying (PC 12)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalačná, lokálna, akútna | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.10. Expozícia spotrebiteľov: Heat transfer fluids (PC 16)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.11. Expozícia spotrebiteľov: Plant protection products; No spraying (PC 27)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.12. Expozícia spotrebiteľov: Plant protection products; Spraying (PC 27)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalačná, lokálna, akútna | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.13. Expozícia spotrebiteľov: Water treatment chemicals (PC 37)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.14. Expozícia spotrebiteľov: Washing and cleaning products; No spraying (PC 35)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalačná, lokálna, akútna | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.15. Expozícia spotrebiteľov: Washing and cleaning products; Spraying (PC 35)**

| **Cesta expozície a typ účinkov** | **Odhad expozície** | **RCR** |
| --- | --- | --- |
| Inhalačná, lokálna, dlhodobá | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalačná, lokálna, akútna | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.4. Usmernenie pre následného užívateľa k vykonávaniu hodnotenia, či pracuje v rámci hraníc vymedzených expozičným scenárom**