**СЦЕНАРИЙ НА ЕКСПОЗИЦИЯ ЗА СЪОБЩАВАНЕ**

**Наименование на вещество:** calcium chloride

**EC номер:** 233-140-8

**CAS номер:** 10043-52-4

**Регистрационен Номер:**

**Дата на генериране/преработка:** 16/04/2020

**Автор:** Apeiron-Team NV

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**Глава 1. ES 1: Производство**

**1.1. Заглавие на раздел**

Наименование на СE: Manufacture

|  |  |
| --- | --- |
| **Околна среда** |  |
| 1: *Manufacturing of substances* | ERC 1 |
| **Работник** |  |
| 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. Условия на употреба, които засягат експозицията**

**1.2.1. Контрол на експозиция на работник**

**Условия за употреба, приложими за всички сценарии**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено (или съдържащо се в изделията) количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 8 h/day |
| **Технически и организационни условия и мерки** |
| 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. |
| **Условия и мерки, свързани с персонална защита, хигиена и оценка на здравето** |
| 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. |
| **Други условия, които засягат експозицията на работниците** |
| Indoor use |
| Assumes process temperature up to 20 °C |

**1.3. Прогнозиране на експозиция и препратка към нейния източник**

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.774 mg/m³ (Измерени данни) | 0.355 |
| Вдишване, локално, остро | 1.774 mg/m³ (Измерени данни) | 0.177 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.774 mg/m³ (Измерени данни) | 0.355 |
| Вдишване, локално, остро | 1.774 mg/m³ (Измерени данни) | 0.177 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.774 mg/m³ (Измерени данни) | 0.355 |
| Вдишване, локално, остро | 1.774 mg/m³ (Измерени данни) | 0.177 |

**1.3.4. Експозиция на работник: Chemical production where opportunity for exposure arises (PROC 4)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.881 mg/m³ (Измерени данни) | 0.376 |
| Вдишване, локално, остро | 1.881 mg/m³ (Измерени данни) | 0.188 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

**1.3.8. Експозиция на работник: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

**1.3.9. Експозиция на работник: Use as laboratory reagent (PROC 15, PROC 26)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.774 mg/m³ (Измерени данни) | 0.355 |
| Вдишване, локално, остро | 1.774 mg/m³ (Измерени данни) | 0.177 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

**1.3.13. Експозиция на работник: Handling of solid inorganic substances at ambient temperature (PROC 26)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 2.742 mg/m³ (Измерени данни) | 0.548 |
| Вдишване, локално, остро | 2.742 mg/m³ (Измерени данни) | 0.274 |

**1.4. Насока за DU да оцени, дали работи в границите, определени от ES**

**Глава 2. ES 2: Формулиране или преопаковане**

**2.1. Заглавие на раздел**

Наименование на СE: Formulation or re-packing; Distribution of substance

|  |  |
| --- | --- |
| **Околна среда** |  |
| 1: Formulation into mixture | ERC 2 |
| **Работник** |  |
| 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. Условия на употреба, които засягат експозицията**

**2.2.1. Контрол на експозиция на работник**

**Условия за употреба, приложими за всички сценарии**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Технически и организационни условия и мерки** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Условия и мерки, свързани с персонална защита, хигиена и оценка на здравето** |
| 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.* |
| **Други условия, които засягат експозицията на работниците** |
| Indoor use |
| Assumes process temperature up to 20 °C |

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**Конкретни условия за употреба за отделен сценарий**

|  |  |
| --- | --- |
| **Допринасящи сценарий** | **Специални мерки** |
| ***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. Прогнозиране на експозиция и препратка към нейния източник**

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Вдишване, локално, остро | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

**2.3.2. Експозиция на работник: *Chemical production in closed continuous process with occasional controlled exposure.* (PROC 2)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.3. Експозиция на работник: *Formulation in closed batch processes with occasional controlled exposure.* (PROC 3)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**2.3.4. Експозиция на работник: *Chemical production where opportunity for exposure arises* (PROC 4)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.5. Експозиция на работник: Mixing or blending in batch processes (PROC 5)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.9. Експозиция на работник: Use as laboratory reagent (PROC 15, PROC 26)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.10. Експозиция на работник: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.14. Експозиция на работник: Manual maintenance (cleaning and repair) of machinery (PROC 28)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.2 |

**2.4. Насока за DU да оцени, дали работи в границите, определени от ES**

**Глава 3. ES 3: Употреба на промишлени площадки; Различни отрасли (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. Заглавие на раздел**

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

Сектор на употреба: Електролити за акумулатори (SU 1), Разработване на мини (без офшорни промишлености) (SU 2a), Офшорни промишлености (SU 2b), Производство на хранителни продукти (SU 4), Производство на текстил, естествена кожа, естествена кожа с косъм (SU 5), Производство на пулп, хартия и хартиени продукти (SU 6b), Производство на насипни, широко мащабни химикали (включително петролни продукти) (SU 8), Производство на фини химикали (SU 9), Производство на гумени продукти (SU 11), Производство на пластмасови продукти, включително блендиране и конверсия (SU 12), Производство на други неметални минерални продукти, напр. мазилки, цимент (SU 13), Производство на основни метали, включително сплави (SU 14), Производство на стандартни метални продукти, с изключение на машини и оборудване (SU 15), Производство на компютри, електронни и оптични продукти, електрическо оборудване (SU 16), Общо производство, напр. машини, оборудване, превозни средства, друго транспортно оборудване (SU 17)

|  |  |
| --- | --- |
| **Околна среда** |  |
| 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 |
| **Работник** |  |
| 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. Условия на употреба, които засягат експозицията**

**3.2.1. Контрол на експозиция на работник**

**Условия за употреба, приложими за всички сценарии**

|  |
| --- |
| **Технически и организационни условия и мерки** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Условия и мерки, свързани с персонална защита, хигиена и оценка на здравето** |
| 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.* |
| **Други условия, които засягат експозицията на работниците** |
| Assumes process temperature up to 20 °C |

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**Конкретни условия за употреба за отделен сценарий**

|  |  |
| --- | --- |
| **Допринасящи сценарий** | **Специални мерки** |
| ***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. Прогнозиране на експозиция и препратка към нейния източник**

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Вдишване, локално, остро | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.4. Експозиция на работник: Chemical production where opportunity for exposure arises (PROC 4)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.5. Експозиция на работник: Mixing or blending in batch processes (PROC 5)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.6. Експозиция на работник: Calendering operations (PROC 6)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.7. Експозиция на работник: Indoor use; Industrial spraying; Solid in solution (PROC 7)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.2 mg/m³ (ART) | 0.24 |
| Вдишване, локално, остро | 9.6 mg/m³ (ART) | 0.96 |

**3.3.8. Експозиция на работник: Outdoor use; Industrial spraying (PROC 7)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.2 mg/m³ (ART) | 0.24 |
| Вдишване, локално, остро | 9.6 mg/m³ (ART) | 0.96 |

**3.3.9. Експозиция на работник: Outdoor use; Industrial spraying (PROC 7)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.2 mg/m³ (ART) | 0.24 |
| Вдишване, локално, остро | 9.6 mg/m³ (ART) | 0.96 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.05 mg/m³ (TRA Workers 3.0) | 0.01 |
| Вдишване, локално, остро | 0.2 mg/m³ (TRA Workers 3.0) | 0.02 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.035 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Вдишване, локално, остро | 0.14 mg/m³ (TRA Workers 3.0) | 0.014 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.19. Експозиция на работник: *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)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.21. Експозиция на работник: Roller application or brushing (PROC 10)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.22. Експозиция на работник: Treatment of articles by dipping and pouring (PROC 13)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.23. Експозиция на работник: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.24. Експозиция на работник: Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Вдишване, локално, остро | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Вдишване, локално, остро | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.03 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Вдишване, локално, остро | 0.12 mg/m³ (TRA Workers 3.0) | 0.012 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.5 mg/m³ (ECETOC TRA Workers) | 0.1 |
| Вдишване, локално, остро | 2 mg/m³ (ECETOC TRA Workers) | 0.2 |

**3.4. Насока за DU да оцени, дали работи в границите, определени от ES**

Инструмент за мащабиране: 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.

**Глава 4. ES 4: Широко разпространена употреба от професионални работници; Различни отрасли (SU 0, SU 1, SU 13, SU 19, SU 20)**

**4.1. Заглавие на раздел**

Наименование на СE: Professional use; Indoor use

Сектор на употреба: Други (SU 0), Електролити за акумулатори (SU 1), Производство на други неметални минерални продукти, напр. мазилки, цимент (SU 13), Изграждане и строителна работа (SU 19), Здравни услуги (SU 20)

|  |  |
| --- | --- |
| **Околна среда** |  |
| 1: Indoor use; Professional use | ERC 8a |
| **Работник** |  |
| 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. Условия на употреба, които засягат експозицията**

**4.2.1. Контрол на експозиция на работник**

**Условия за употреба, приложими за всички сценарии**

|  |
| --- |
| **Условия и мерки, свързани с персонална защита, хигиена и оценка на здравето** |
| *Use suitable eye protection.* |
| **Други условия, които засягат експозицията на работниците** |
| Indoor use |
| Assumes process temperature up to 20 °C |

​

**Конкретни условия за употреба за отделен сценарий**

|  |  |
| --- | --- |
| **Допринасящи сценарий** | **Специални мерки** |
| ***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. Прогнозиране на експозиция и препратка към нейния източник**

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Вдишване, локално, остро | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.4. Експозиция на работник: Chemical production where opportunity for exposure arises (PROC 4)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.5. Експозиция на работник: Mixing or blending in batch processes (PROC 5)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.4 mg/m³ (TRA Workers 3.0) | 0.28 |
| Вдишване, локално, остро | 5.6 mg/m³ (TRA Workers 3.0) | 0.56 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.9. Експозиция на работник: Roller application or brushing (PROC 10)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.10. Експозиция на работник: Indoor use; Non-industrial spraying; Solid in solution (PROC 11)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.2 mg/m³ (ART) | 0.24 |
| Вдишване, локално, остро | 9.6 mg/m³ (ART) | 0.96 |

**4.3.11. Експозиция на работник: Use as laboratory reagent (PROC 15, PROC 26)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.12. Експозиция на работник: Manual activities involving hand contact (PROC 19)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.13. Експозиция на работник: Use of functional fluids in small devices (PROC 20)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Вдишване, локално, остро | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (ECETOC TRA Workers) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (ECETOC TRA Workers) | 0.28 |

**4.4. Насока за DU да оцени, дали работи в границите, определени от ES**

Инструмент за мащабиране: 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.

**Глава 5. ES 5: Широко разпространена употреба от професионални работници; Различни отрасли (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)**

**5.1. Заглавие на раздел**

Наименование на СE: Professional use; Outdoor use

Сектор на употреба: Други (SU 0), Електролити за акумулатори (SU 1), Производство на текстил, естествена кожа, естествена кожа с косъм (SU 5), Производство на други неметални минерални продукти, напр. мазилки, цимент (SU 13), Изграждане и строителна работа (SU 19), Здравни услуги (SU 20)

|  |  |
| --- | --- |
| **Околна среда** |  |
| 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC 8d |
| **Работник** |  |
| 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. Условия на употреба, които засягат експозицията**

**5.2.1. Контрол на експозиция на работник**

**Условия за употреба, приложими за всички сценарии**

|  |
| --- |
| **Други условия, които засягат експозицията на работниците** |
| Outdoor use |
| Assumes process temperature up to 20 °C |

​

**Конкретни условия за употреба за отделен сценарий**

|  |  |
| --- | --- |
| **Допринасящи сценарий** | **Специални мерки** |
| ***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. Прогнозиране на експозиция и препратка към нейния източник**

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 7E-3 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Вдишване, локално, остро | 0.028 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.4. Експозиция на работник: Chemical production where opportunity for exposure arises (PROC 4)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.5. Експозиция на работник: Mixing or blending in batch processes (PROC 5)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.9. Експозиция на работник: Roller application or brushing (PROC 10)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.10. Експозиция на работник: Outdoor use; Non-industrial spraying (PROC 11)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.2 mg/m³ (ART) | 0.24 |
| Вдишване, локално, остро | 9.6 mg/m³ (ART) | 0.96 |

**5.3.11. Експозиция на работник: Outdoor use; Non-industrial spraying (PROC 11)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 1.2 mg/m³ (ART) | 0.24 |
| Вдишване, локално, остро | 9.6 mg/m³ (ART) | 0.96 |

**5.3.12. Експозиция на работник: Use as laboratory reagent (PROC 15, PROC 26)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.13. Експозиция на работник: Mixing operations; Manual activities involving hand contact (PROC 19)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Вдишване, локално, остро | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.14. Експозиция на работник: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.15. Експозиция на работник: Use of functional fluids in small devices (PROC 20)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Вдишване, локално, остро | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.4. Насока за DU да оцени, дали работи в границите, определени от ES**

Ръководство: 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.

**Глава 6. ES 6: Потребителска употреба; Различни продукти (PC 0, PC 2, PC 4, PC 12, PC 16, PC 27, PC 35, PC 37)**

**6.1. Заглавие на раздел**

Наименование на СE: Consumer use; Indoor or outdoor use

Категория на продукта: Други (PC 0), Адсорбенти (PC 2), Антифризни и размразяващи продукти (PC 4), Торове (PC 12), Флуиди за топлообмен (PC 16), Продукти за растителна защита (PC 27), Продукти за измиване и почистване (PC 35), Химикали за обработка на водата (PC 37)

|  |  |
| --- | --- |
| **Околна среда** |  |
| 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 |
| **Потребител** |  |
| 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. Условия на употреба, които засягат експозицията**

**6.2.1. Контрол на експозиция на потребител: Dust suppressant; No spraying (PC 0)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.2. Контрол на експозиция на потребител: Dust suppressant; Spraying (PC 0)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| 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* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.3. Контрол на експозиция на потребител: *Humidity adsorbants* (PC 0)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.4. Контрол на експозиция на потребител: *Cement/concrete/mortar* (PC 0)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.5. Контрол на експозиция на потребител: Adsorbents (PC 2)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.6. Контрол на експозиция на потребител: Anti-freeze and de-icing products; No spraying (PC 4)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| 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* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.7. Контрол на експозиция на потребител: Anti-freeze and de-icing products; Spraying (PC 4)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| 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* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.8. Контрол на експозиция на потребител: Fertilizers; No spraying (PC 12)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.9. Контрол на експозиция на потребител: Fertilizers; Spraying (PC 12)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| 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* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.10. Контрол на експозиция на потребител: Heat transfer fluids (PC 16)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.11. Контрол на експозиция на потребител: Plant protection products; No spraying (PC 27)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.12. Контрол на експозиция на потребител: Plant protection products; Spraying (PC 27)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| 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* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.13. Контрол на експозиция на потребител: Water treatment chemicals (PC 37)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| *Covers exposure via inhalation route* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.14. Контрол на експозиция на потребител: Washing and cleaning products; No spraying (PC 35)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Други условия, които засягат експозицията на потребителите** |
| Release area <= 125 m2 |

**6.2.15. Контрол на експозиция на потребител: Washing and cleaning products; Spraying (PC 35)**

|  |
| --- |
| **Характеристики на продукт (изделие)** |
| 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* |
| **Употребено количество, честота и продължителност на употреба/експозиция** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Информация и поведенчески съвети за потребители** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.3. Прогнозиране на експозиция и препратка към нейния източник**

**6.3.1. Експозиция на потребител: Dust suppressant; No spraying (PC 0)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.2. Експозиция на потребител: Dust suppressant; Spraying (PC 0)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Вдишване, локално, остро | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.3. Експозиция на потребител: *Humidity adsorbants* (PC 0)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.4. Експозиция на потребител: *Cement/concrete/mortar* (PC 0)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.5. Експозиция на потребител: Adsorbents (PC 2)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.6. Експозиция на потребител: Anti-freeze and de-icing products; No spraying (PC 4)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.7. Експозиция на потребител: Anti-freeze and de-icing products; Spraying (PC 4)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Вдишване, локално, остро | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.8. Експозиция на потребител: Fertilizers; No spraying (PC 12)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.9. Експозиция на потребител: Fertilizers; Spraying (PC 12)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Вдишване, локално, остро | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.10. Експозиция на потребител: Heat transfer fluids (PC 16)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.11. Експозиция на потребител: Plant protection products; No spraying (PC 27)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.12. Експозиция на потребител: Plant protection products; Spraying (PC 27)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Вдишване, локално, остро | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.13. Експозиция на потребител: Water treatment chemicals (PC 37)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.14. Експозиция на потребител: Washing and cleaning products; No spraying (PC 35)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Вдишване, локално, остро | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.15. Експозиция на потребител: Washing and cleaning products; Spraying (PC 35)**

| **Път на експозиция и вид на въздействията** | **Прогноза за експозиция** | **КХР** |
| --- | --- | --- |
| Вдишване, локално, дългосрочно | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Вдишване, локално, остро | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.4. Насока за DU да оцени, дали работи в границите, определени от ES**