**EKSPONERINGSSCENARIE FOR KOMMUNIKATION**

**Stoffets navn:** calcium chloride

**EF-nummer:** 233-140-8

**CAS-nummer:** 10043-52-4

**Registreringsnummer:**

**Dato for generering/revidering:** 16/04/2020

**Forfatter:** Apeiron-Team NV

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**Kapitel 1. ES 1: Fremstilling**

**1.1. Hovedafsnit**

ES-navn: Manufacture

|  |  |
| --- | --- |
| **Miljø** |  |
| 1: *Manufacturing of substances* | ERC 1 |
| **Arbejdstager** |  |
| 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. Anvendelsesforhold, der påvirker eksponering**

**1.2.1. Kontrol af arbejdstageres eksponering**

**Anvendelsesforholdene gælder for alle bidragende scenarier**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt (eller indeholdt i artikler), hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 8 h/day |
| **Tekniske og organisatoriske betingelser og foranstaltninger** |
| 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. |
| **Betingelser og foranstaltninger i forbindelse med personlig beskyttelse, hygiejne og sundhedsmæssig vurdering** |
| 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. |
| **Andre forhold, der påvirker eksponeringen af arbejdstagere** |
| Indoor use |
| Assumes process temperature up to 20 °C |

**1.3. Skøn over eksponering og henvisning til kilden**

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.774 mg/m³ (Måledata) | 0.355 |
| Inhalation, lokal, akut | 1.774 mg/m³ (Måledata) | 0.177 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.774 mg/m³ (Måledata) | 0.355 |
| Inhalation, lokal, akut | 1.774 mg/m³ (Måledata) | 0.177 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.774 mg/m³ (Måledata) | 0.355 |
| Inhalation, lokal, akut | 1.774 mg/m³ (Måledata) | 0.177 |

**1.3.4. Eksponering af arbejdstagere: Chemical production where opportunity for exposure arises (PROC 4)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.881 mg/m³ (Måledata) | 0.376 |
| Inhalation, lokal, akut | 1.881 mg/m³ (Måledata) | 0.188 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

**1.3.8. Eksponering af arbejdstagere: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

**1.3.9. Eksponering af arbejdstagere: Use as laboratory reagent (PROC 15, PROC 26)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.774 mg/m³ (Måledata) | 0.355 |
| Inhalation, lokal, akut | 1.774 mg/m³ (Måledata) | 0.177 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

**1.3.13. Eksponering af arbejdstagere: Handling of solid inorganic substances at ambient temperature (PROC 26)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 2.742 mg/m³ (Måledata) | 0.548 |
| Inhalation, lokal, akut | 2.742 mg/m³ (Måledata) | 0.274 |

**1.4. Vejledning til DU for at vurdere, om denne arbejder inden for de grænser, der er fastsat i ES**

**Kapitel 2. ES 2: Formulering eller genemballering**

**2.1. Hovedafsnit**

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

|  |  |
| --- | --- |
| **Miljø** |  |
| 1: Formulation into mixture | ERC 2 |
| **Arbejdstager** |  |
| 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. Anvendelsesforhold, der påvirker eksponering**

**2.2.1. Kontrol af arbejdstageres eksponering**

**Anvendelsesforholdene gælder for alle bidragende scenarier**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Tekniske og organisatoriske betingelser og foranstaltninger** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Betingelser og foranstaltninger i forbindelse med personlig beskyttelse, hygiejne og sundhedsmæssig vurdering** |
| 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.* |
| **Andre forhold, der påvirker eksponeringen af arbejdstagere** |
| Indoor use |
| Assumes process temperature up to 20 °C |

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**Særlige anvendelsesforhold pr. bidragende scenarie**

|  |  |
| --- | --- |
| **Kontribuerendescenarie** | **Særlige foranstaltninger** |
| ***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. Skøn over eksponering og henvisning til kilden**

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalation, lokal, akut | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

**2.3.2. Eksponering af arbejdstagere: *Chemical production in closed continuous process with occasional controlled exposure.* (PROC 2)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.3. Eksponering af arbejdstagere: *Formulation in closed batch processes with occasional controlled exposure.* (PROC 3)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**2.3.4. Eksponering af arbejdstagere: *Chemical production where opportunity for exposure arises* (PROC 4)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.5. Eksponering af arbejdstagere: Mixing or blending in batch processes (PROC 5)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**2.3.9. Eksponering af arbejdstagere: Use as laboratory reagent (PROC 15, PROC 26)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.10. Eksponering af arbejdstagere: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**2.3.14. Eksponering af arbejdstagere: Manual maintenance (cleaning and repair) of machinery (PROC 28)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (PROC 8a estimate used to cover PROC 28) | 0.2 |

**2.4. Vejledning til DU for at vurdere, om denne arbejder inden for de grænser, der er fastsat i ES**

**Kapitel 3. ES 3: Anvendelse på industrianlæg; Forskellige sektorer (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. Hovedafsnit**

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

Anvendelsessektor: Landbrug, skovbrug, fiskeri (SU 1), Minedrift (bortset fra offshore-industri) (SU 2a), Offshore-industri (SU 2b), Fremstilling af fødevarer (SU 4), Fremstilling af tekstiler, læder, skind (SU 5), Fremstilling af papirmasse, papir og papirprodukter (SU 6b), Fremstilling af kemikalier i bulk (herunder olieprodukter) (SU 8), Fremstilling af finkemikalier (SU 9), Fremstilling af gummiprodukter (SU 11), Fremstilling af plastprodukter, herunder blanding og omdannelse (SU 12), Fremstilling af andre ikke-metalliske mineralske produkter, f.eks. puds, cement (SU 13), Fremstilling af basismetaller, herunder legeringer (SU 14), Fremstilling af forarbejdede metalprodukter, undtagen maskiner og udstyr (SU 15), Fremstilling af computere, elektroniske og optiske produkter, elektrisk udstyr (SU 16), Generel fremstilling af f.eks. maskiner, udstyr, køretøjer og andet transportudstyr (SU 17)

|  |  |
| --- | --- |
| **Miljø** |  |
| 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 |
| **Arbejdstager** |  |
| 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. Anvendelsesforhold, der påvirker eksponering**

**3.2.1. Kontrol af arbejdstageres eksponering**

**Anvendelsesforholdene gælder for alle bidragende scenarier**

|  |
| --- |
| **Tekniske og organisatoriske betingelser og foranstaltninger** |
| Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision. |
| **Betingelser og foranstaltninger i forbindelse med personlig beskyttelse, hygiejne og sundhedsmæssig vurdering** |
| 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.* |
| **Andre forhold, der påvirker eksponeringen af arbejdstagere** |
| Assumes process temperature up to 20 °C |

​

**Særlige anvendelsesforhold pr. bidragende scenarie**

|  |  |
| --- | --- |
| **Kontribuerendescenarie** | **Særlige foranstaltninger** |
| ***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. Skøn over eksponering og henvisning til kilden**

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalation, lokal, akut | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.4. Eksponering af arbejdstagere: Chemical production where opportunity for exposure arises (PROC 4)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.5. Eksponering af arbejdstagere: Mixing or blending in batch processes (PROC 5)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.6. Eksponering af arbejdstagere: Calendering operations (PROC 6)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.7. Eksponering af arbejdstagere: Indoor use; Industrial spraying; Solid in solution (PROC 7)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.2 mg/m³ (ART) | 0.24 |
| Inhalation, lokal, akut | 9.6 mg/m³ (ART) | 0.96 |

**3.3.8. Eksponering af arbejdstagere: Outdoor use; Industrial spraying (PROC 7)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.2 mg/m³ (ART) | 0.24 |
| Inhalation, lokal, akut | 9.6 mg/m³ (ART) | 0.96 |

**3.3.9. Eksponering af arbejdstagere: Outdoor use; Industrial spraying (PROC 7)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.2 mg/m³ (ART) | 0.24 |
| Inhalation, lokal, akut | 9.6 mg/m³ (ART) | 0.96 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.05 mg/m³ (TRA Workers 3.0) | 0.01 |
| Inhalation, lokal, akut | 0.2 mg/m³ (TRA Workers 3.0) | 0.02 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.035 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalation, lokal, akut | 0.14 mg/m³ (TRA Workers 3.0) | 0.014 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.19. Eksponering af arbejdstagere: *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)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

**3.3.21. Eksponering af arbejdstagere: Roller application or brushing (PROC 10)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**3.3.22. Eksponering af arbejdstagere: Treatment of articles by dipping and pouring (PROC 13)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.23. Eksponering af arbejdstagere: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

**3.3.24. Eksponering af arbejdstagere: Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (TRA Workers 3.0) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (TRA Workers 3.0) | 0.2 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalation, lokal, akut | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.1 mg/m³ (TRA Workers 3.0) | 0.02 |
| Inhalation, lokal, akut | 0.4 mg/m³ (TRA Workers 3.0) | 0.04 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.03 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalation, lokal, akut | 0.12 mg/m³ (TRA Workers 3.0) | 0.012 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.5 mg/m³ (ECETOC TRA Workers) | 0.1 |
| Inhalation, lokal, akut | 2 mg/m³ (ECETOC TRA Workers) | 0.2 |

**3.4. Vejledning til DU for at vurdere, om denne arbejder inden for de grænser, der er fastsat i ES**

Skaleringsværktøj: 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.

**Kapitel 4. ES 4: Udbredt anvendelse af erhvervsmæssige brugere; Forskellige sektorer (SU 0, SU 1, SU 13, SU 19, SU 20)**

**4.1. Hovedafsnit**

ES-navn: Professional use; Indoor use

Anvendelsessektor: Andet (SU 0), Landbrug, skovbrug, fiskeri (SU 1), Fremstilling af andre ikke-metalliske mineralske produkter, f.eks. puds, cement (SU 13), Bygge- og anlægsarbejde (SU 19), Sundhedsvæsen (SU 20)

|  |  |
| --- | --- |
| **Miljø** |  |
| 1: Indoor use; Professional use | ERC 8a |
| **Arbejdstager** |  |
| 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. Anvendelsesforhold, der påvirker eksponering**

**4.2.1. Kontrol af arbejdstageres eksponering**

**Anvendelsesforholdene gælder for alle bidragende scenarier**

|  |
| --- |
| **Betingelser og foranstaltninger i forbindelse med personlig beskyttelse, hygiejne og sundhedsmæssig vurdering** |
| *Use suitable eye protection.* |
| **Andre forhold, der påvirker eksponeringen af arbejdstagere** |
| Indoor use |
| Assumes process temperature up to 20 °C |

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**Særlige anvendelsesforhold pr. bidragende scenarie**

|  |  |
| --- | --- |
| **Kontribuerendescenarie** | **Særlige foranstaltninger** |
| ***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. Skøn over eksponering og henvisning til kilden**

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.01 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalation, lokal, akut | 0.04 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.4. Eksponering af arbejdstagere: Chemical production where opportunity for exposure arises (PROC 4)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.5. Eksponering af arbejdstagere: Mixing or blending in batch processes (PROC 5)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.4 mg/m³ (TRA Workers 3.0) | 0.28 |
| Inhalation, lokal, akut | 5.6 mg/m³ (TRA Workers 3.0) | 0.56 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.9. Eksponering af arbejdstagere: Roller application or brushing (PROC 10)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.10. Eksponering af arbejdstagere: Indoor use; Non-industrial spraying; Solid in solution (PROC 11)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.2 mg/m³ (ART) | 0.24 |
| Inhalation, lokal, akut | 9.6 mg/m³ (ART) | 0.96 |

**4.3.11. Eksponering af arbejdstagere: Use as laboratory reagent (PROC 15, PROC 26)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**4.3.12. Eksponering af arbejdstagere: Manual activities involving hand contact (PROC 19)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**4.3.13. Eksponering af arbejdstagere: Use of functional fluids in small devices (PROC 20)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1 mg/m³ (TRA Workers 3.0) | 0.2 |
| Inhalation, lokal, akut | 4 mg/m³ (TRA Workers 3.0) | 0.4 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (ECETOC TRA Workers) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (ECETOC TRA Workers) | 0.28 |

**4.4. Vejledning til DU for at vurdere, om denne arbejder inden for de grænser, der er fastsat i ES**

Skaleringsværktøj: 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.

**Kapitel 5. ES 5: Udbredt anvendelse af erhvervsmæssige brugere; Forskellige sektorer (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)**

**5.1. Hovedafsnit**

ES-navn: Professional use; Outdoor use

Anvendelsessektor: Andet (SU 0), Landbrug, skovbrug, fiskeri (SU 1), Fremstilling af tekstiler, læder, skind (SU 5), Fremstilling af andre ikke-metalliske mineralske produkter, f.eks. puds, cement (SU 13), Bygge- og anlægsarbejde (SU 19), Sundhedsvæsen (SU 20)

|  |  |
| --- | --- |
| **Miljø** |  |
| 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC 8d |
| **Arbejdstager** |  |
| 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. Anvendelsesforhold, der påvirker eksponering**

**5.2.1. Kontrol af arbejdstageres eksponering**

**Anvendelsesforholdene gælder for alle bidragende scenarier**

|  |
| --- |
| **Andre forhold, der påvirker eksponeringen af arbejdstagere** |
| Outdoor use |
| Assumes process temperature up to 20 °C |

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**Særlige anvendelsesforhold pr. bidragende scenarie**

|  |  |
| --- | --- |
| **Kontribuerendescenarie** | **Særlige foranstaltninger** |
| ***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. Skøn over eksponering og henvisning til kilden**

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 7E-3 mg/m³ (TRA Workers 3.0) | < 0.01 |
| Inhalation, lokal, akut | 0.028 mg/m³ (TRA Workers 3.0) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.4. Eksponering af arbejdstagere: Chemical production where opportunity for exposure arises (PROC 4)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.5. Eksponering af arbejdstagere: Mixing or blending in batch processes (PROC 5)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.9. Eksponering af arbejdstagere: Roller application or brushing (PROC 10)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.10. Eksponering af arbejdstagere: Outdoor use; Non-industrial spraying (PROC 11)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.2 mg/m³ (ART) | 0.24 |
| Inhalation, lokal, akut | 9.6 mg/m³ (ART) | 0.96 |

**5.3.11. Eksponering af arbejdstagere: Outdoor use; Non-industrial spraying (PROC 11)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 1.2 mg/m³ (ART) | 0.24 |
| Inhalation, lokal, akut | 9.6 mg/m³ (ART) | 0.96 |

**5.3.12. Eksponering af arbejdstagere: Use as laboratory reagent (PROC 15, PROC 26)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.13. Eksponering af arbejdstagere: Mixing operations; Manual activities involving hand contact (PROC 19)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.35 mg/m³ (TRA Workers 3.0) | 0.07 |
| Inhalation, lokal, akut | 1.4 mg/m³ (TRA Workers 3.0) | 0.14 |

**5.3.14. Eksponering af arbejdstagere: *Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.3.15. Eksponering af arbejdstagere: Use of functional fluids in small devices (PROC 20)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.7 mg/m³ (TRA Workers 3.0) | 0.14 |
| Inhalation, lokal, akut | 2.8 mg/m³ (TRA Workers 3.0) | 0.28 |

**5.4. Vejledning til DU for at vurdere, om denne arbejder inden for de grænser, der er fastsat i ES**

Vejledning: 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.

**Kapitel 6. ES 6: Forbrugeranvendelse; Forskellige produkter (PC 0, PC 2, PC 4, PC 12, PC 16, PC 27, PC 35, PC 37)**

**6.1. Hovedafsnit**

ES-navn: Consumer use; Indoor or outdoor use

Produktkategori: Andet (PC 0), Adsorptionsmidler (PC 2), Frostbeskyttelsesmidler og afisningsprodukter (PC 4), Gødning (PC 12), Varmetransporterende væsker (PC 16), Plantebeskyttelsesmidler (PC 27), Vaske- og rengøringsprodukter (PC 35), Vandbehandlingskemikalier (PC 37)

|  |  |
| --- | --- |
| **Miljø** |  |
| 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 |
| **Forbrugere** |  |
| 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. Anvendelsesforhold, der påvirker eksponering**

**6.2.1. Kontrol af forbrugereksponering: Dust suppressant; No spraying (PC 0)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.2. Kontrol af forbrugereksponering: Dust suppressant; Spraying (PC 0)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| 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* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.3. Kontrol af forbrugereksponering: *Humidity adsorbants* (PC 0)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.4. Kontrol af forbrugereksponering: *Cement/concrete/mortar* (PC 0)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.5. Kontrol af forbrugereksponering: Adsorbents (PC 2)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.6. Kontrol af forbrugereksponering: Anti-freeze and de-icing products; No spraying (PC 4)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| 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* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.7. Kontrol af forbrugereksponering: Anti-freeze and de-icing products; Spraying (PC 4)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| 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* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.8. Kontrol af forbrugereksponering: Fertilizers; No spraying (PC 12)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.9. Kontrol af forbrugereksponering: Fertilizers; Spraying (PC 12)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| 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* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.10. Kontrol af forbrugereksponering: Heat transfer fluids (PC 16)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.11. Kontrol af forbrugereksponering: Plant protection products; No spraying (PC 27)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.12. Kontrol af forbrugereksponering: Plant protection products; Spraying (PC 27)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| 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* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.2.13. Kontrol af forbrugereksponering: Water treatment chemicals (PC 37)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| *Covers exposure via inhalation route* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.14. Kontrol af forbrugereksponering: Washing and cleaning products; No spraying (PC 35)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| Covers concentrations up to 100 % |
| *Solid, medium dustiness. Covers also liquid form* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers use up to 24 h* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |
| **Andre forhold, der påvirker forbrugernes eksponering** |
| Release area <= 125 m2 |

**6.2.15. Kontrol af forbrugereksponering: Washing and cleaning products; Spraying (PC 35)**

|  |
| --- |
| **Produkt- (artikel-) karakteristika** |
| 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* |
| **Mængde anvendt, hyppighed og varighed af anvendelse/eksponering** |
| Covers use up to 1 events per day |
| *Covers 10 minutes spraying application* |
| **Information og adfærdsmæssige anbefalinger til forbrugere** |
| *Requires room with good ventilation* |
| *Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.* |

**6.3. Skøn over eksponering og henvisning til kilden**

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalation, lokal, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.3. Forbrugereksponering: *Humidity adsorbants* (PC 0)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.5. Forbrugereksponering: Adsorbents (PC 2)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalation, lokal, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

**6.3.9. Forbrugereksponering: Fertilizers; Spraying (PC 12)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalation, lokal, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.10. Forbrugereksponering: Heat transfer fluids (PC 16)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalation, lokal, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.3.13. Forbrugereksponering: Water treatment chemicals (PC 37)**

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 5E-3 mg/m³ (ConsExpo) | < 0.01 |
| Inhalation, lokal, akut | 0.01 mg/m³ (ConsExpo) | < 0.01 |

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

| **Eksponeringsvej og type af virkninger** | **Skøn over eksponering** | **RCR** |
| --- | --- | --- |
| Inhalation, lokal, langvarig | 0.687 mg/m³ (ConsExpo) | 0.275 |
| Inhalation, lokal, akut | 0.69 mg/m³ (ConsExpo) | 0.138 |

**6.4. Vejledning til DU for at vurdere, om denne arbejder inden for de grænser, der er fastsat i ES**