FICHA DE DATOS DE SEGURIDAD

SECCIÓN 1: IDENTIFICACIÓN DE LA SUSTANCIA Y DE LA SOCIEDAD O LA EMPRESA

1.1. **Identificador de producto:**
Absorgel

1.2. **Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados:**
Desecante, absorbente para uso industrial, profesional y de consumo.

1.3. **Datos del proveedor de la ficha de datos de seguridad:**

Información sobre el distribuidor/fabricante:
Absortech Group
Tryckerivägen 4, 311 44 Falkenberg
Suecia
Tel: 034-64 20 70

1.3.1. Persona responsable: -
E-mail: info@absortech.com

1.4. **Teléfono de emergencia:** **Servicio de Información Toxicológica**
Teléfono de emergencias: + 34 91 562 04 20
(Solo emergencias toxicológicas. Información en español (24h/365 días)

SECCIÓN 2: IDENTIFICACIÓN DE LOS PELIGROS

2.1. **Clasificación de la sustancia o de la mezcla:**

Clasificación según el Reglamento (CE) Nº 1272/2008 (CLP):
Lesiones oculares graves o irritación ocular, categoría 2 – H319

Indicaciones de peligro:
H319 – Provoca irritación ocular grave.

2.2. **Elementos de la etiqueta:**

ATENCIÓN

Indicaciones de peligro:
H319 – Provoca irritación ocular grave.

Consejos de prudencia:
P102 – Mantener fuera del alcance de los niños.
P280 – Llevar guantes/ropa de protección/equipo de protección para los ojos/la cara.
P305 + P351 + P338 – EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.
P337 + P313 – Si persiste la irritación ocular: Consultar a un médico.

2.3. Otros peligros:

Puede formar una mezcla explosiva de polvo-aire si se dispersa.
Resultados de la valoración PBT y mPmB: Esta mezcla no contiene ingredientes considerados persistentes, bioacumulables y tóxicos (PBT), o muy persistentes y muy bioacumulables (mPmB) a niveles del 0,1% o superiores de acuerdo con el Anexo XIII del Reglamento (CE) n. º 1907/2006.
Propiedad de alteración endocrina: La mezcla no contiene ningún componente que se considere un alterador endocrino, de acuerdo con el Reglamento Delegado (UE) 2017/2100 de la Comisión o el Reglamento (UE) 2018/605 de la Comisión a niveles del 0,1 % o superiores.

SECCIÓN 3: COMPOSICIÓN/INFORMACIÓN SOBRE LOS COMPONENTES

3.1. Sustancias:

No aplicable.

3.2. Mezclas:

Descripción	N° CAS	N° CE / N° de la lista ECHA	N° de Reg. REACH	Conc. (%)	Clasificación según el Reglamento (CE) Nº 1272/2008 (CLP)		
					Códigos de pictogramas y palabras de advertencia	Códigos de clase y categoría de peligro	Códigos de indicaciones de peligro
Calcium chloride Número de índice: 017-013-00-2	10043-52-4	233-140-8	01-2119494219-28	65 – < 90	GHS07 Atención	Eye Irrit. 2	H319
Almidón*/**	9005-25-8	232-679-6	exento	10 – < 35	-	no clasificado	-

*: Clasificación proporcionada por el fabricante, la sustancia no figura en el Anexo VI de la Reglamento (CE) n° 1272/2008.
**: Sustancia que tiene valor límite de exposición ocupacional.

No contiene ninguna otra sustancia considerada como peligrosa para la salud o para el medio ambiente, o su concentración no alcanza el nivel especificado en la legislación pertinente. Por lo tanto, no es necesario que se incluya en la hoja de datos de seguridad.

Para el texto completo de indicaciones de peligro, véase la Sección 16.

SECCIÓN 4: PRIMEROS AUXILIOS

4.1. Descripción de los primeros auxilios:

INGESTIÓN:

Medidas:

- Enjuague la boca y beber agua.
- No provocar el vómito.
- Si los síntomas persisten, consulte a un médico.

INHALACIÓN:

Tareas:

- Llevar al paciente al aire libre, y colocarle en posición cómoda.
- Llame a un médico si los síntomas persisten.

CONTACTO CON LA PIEL:

Medidas:

- Quitar las prendas contaminadas.
- Lave la piel inmediatamente con agua y jabón.
- Llame a un médico si los síntomas persisten.

CONTACTO CON LOS OJOS:

Medidas:

- En caso de contacto con los ojos, enjuague con un chorro de agua suave o colirio manteniendo los párpados abiertos (durante al menos 15 minutos).
- Quítese las lentes de contacto.

- Si los síntomas persisten, consulte a un médico.

4.2. **Principales síntomas y efectos, agudos y retardados:**
Inhalación: Puede causar irritación leve/pasajera.
Contacto con la piel: Puede causar irritación leve/pasajera.
Contacto con los ojos: Provoca ardor intenso, lagrimeo/aumento del lagrimeo.
Ingestión: Puede causar irritación en la boca y garganta.

4.3. **Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente:**
No se requiere un tratamiento especial, tratamiento sintomático.

SECCIÓN 5: MEDIDAS DE LUCHA CONTRA INCENDIOS

5.1. **Medios de extinción:**

5.1.1. **Medidas de extinción apropiados:**
Elija los medios de extinción según el incendio.

5.1.2. **Medios de extinción no apropiados:**
No se conocen medios de extinción inadecuados.

5.2. **Peligros específicos derivados de la sustancia o la mezcla:**
No combustible.
En caso de incendio, pueden desarrollarse humos tóxicos y corrosivos como cloruro de hidrógeno y otros productos de combustión.

5.3. **Recomendaciones para el personal de lucha contra incendios:**
Precauciones según el procedimiento estándar para incendios químicos.
Utilice un aparato de respiración para protegerse contra gases tóxicos/corrosivos y ropa protectora adecuada resistente al fuego.

SECCIÓN 6: MEDIDAS EN CASO DE VERTIDO ACCIDENTAL

6.1. **Precauciones personales, equipo de protección y procedimientos de emergencia:**

6.1.1. **Para el personal que no forma parte de los servicios de emergencia:**
Se permite sólo a los expertos bien entrenados que usen ropa de protección adecuada a permanecer en el campo de accidente.

6.1.2. **Para el personal de emergencia:**
Evite generar polvo.
Evitese el contacto con la piel y los ojos.
Use guantes protectores, protección para los ojos y ropa protectora al limpiar.
Mantenga alejadas a las personas sin protección.

6.2. **Precauciones relativas al medio ambiente:**
Elimine el derrame y los residuos resultantes de acuerdo con la normativa ambiental aplicable. No permita que el producto y los residuos resultantes penetren en los desagües/suelo/agua superficial o subterránea. Al contaminarse el entorno natural avisar sin demora las autoridades competentes.

6.3. **Métodos y material de contención y de limpieza:**
Barra el producto. A continuación, coloque los desechos recolectados en un contenedor de desechos peligrosos apropiado, etiquetado y que se pueda cerrar hasta su eliminación/desecho adecuado.
Manipule de acuerdo con las regulaciones locales.

6.4. **Referencia a otras secciones:**
Para más información detallada, véase las Secciones 8 y 13.

SECCIÓN 7: MANIPULACIÓN Y ALMACENAMIENTO

7.1. **Precauciones para una manipulación segura:**
Está obligado cumplir las disposiciones de higiene.
Evite la inhalación y el contacto directo con el producto.
No comer, beber ni fumar durante su utilización.
Higiene normal de manos.
Medidas de orden técnico:
No requiere medidas especiales.
Prevención de incendios y explosiones:
Puede formar una mezcla explosiva de polvo-aire si se dispersa.

7.2. **Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades:**

Medidas técnicas y condiciones de almacenamiento:
Almacene en un lugar fresco y seco en un área bien ventilada.
El producto es higroscópico.
Almacene en un envase original etiquetado.
Materiales incompatibles: Vea la sección 10.5.
Material de embalaje: polietileno, polipropileno y materiales plásticos como PVDF, PTFE y PFA. Material de embalaje inadecuado: aluminio.

7.3. **Usos específicos finales:**
Vea la Sección 1.

SECCIÓN 8: CONTROLES DE EXPOSICIÓN/PROTECCIÓN INDIVIDUAL

8.1. **Parámetros de control:**

Valores límite de exposición profesional (Límites de exposición profesional para agentes químicos en España 2022 – INSST):
Almidón (CAS: 9005-25-8): VLA-ED®: 10 mg/m³

Cloruro de calcio (CAS: 10043-52-4):

Valores DNEL		**Exposición oral**		**Exposición dérmica**		**Exposición por inhalación**	
		Corto plazo (aguda)	A largo plazo (crónica)	Corto plazo (aguda)	A largo plazo (crónica)	Corto plazo (aguda)	A largo plazo (crónica)
Consumidor	Local	sin datos	sin datos	sin datos	sin datos	sin datos	sin datos
	Sistémico	sin datos	sin datos	sin datos	sin datos	sin datos	sin datos
Trabajador	Local	sin datos	sin datos	sin datos	sin datos	10 mg/m³	5 mg/m³
	Sistémico	sin datos	sin datos	sin datos	sin datos	sin datos	sin datos

Valores PNEC		
Compartimento	Valor	Nota(s)
Agua dulce	sin datos	sin notas
Agua marina	sin datos	sin notas
Sedimento de agua dulce	sin datos	sin notas
Sedimentos marinos	sin datos	sin notas
Planta de tratamiento de aguas residuales (STP)	sin datos	sin notas
Comunicados intermitentes	sin datos	sin notas
Envenenamiento secundario	sin datos	sin notas
Tierra	sin datos	sin notas

8.2. **Controles de la exposición:**
En el caso de productos peligrosos sin valores de límite el empleador está obligado a reducir la exposición al nivel mínimo según el nivel científico técnico del momento, ya que en ese nivel, según los conocimientos científicos actuales la sustancia peligrosa no es nociva para la salud.

8.2.1. **Controles técnicos apropiados:**
Tener suficiente cautela durante el trabajo para prevenir el vertido del producto al piso, a la ropa, a la piel o a los ojos.
Los métodos están diseñados para que la concentración de polvo se mantenga lo más baja posible mediante el uso de procesos cerrados, extracción de ventilación local o similares.
Debe haber un lugar para enjuagarse los ojos en el lugar de trabajo.

8.2.2. **Medidas de protección individual, tales como equipos de protección personal:**

1. **Protección de los ojos/la cara:** Se utilizarán gafas de protección (EN ISO 16321-1:2022; EN 166).
2. **Protección de la piel:**
   a. **Protección de las manos:** En caso de riesgo de contacto directo, deben utilizarse guantes protectores (EN 374). Material recomendado para guantes: PVC, neopreno y caucho natural.
   b. **Otros:** Use un abrigo/overol de manga larga apropiado y zapatos que cubran todo.
3. **Protección respiratoria:** Al manipular grandes cantidades, puede ser necesaria protección respiratoria (EN 143). Filtro de partículas: P2.
4. **Peligros térmicos:** No se conocen peligros térmicos.

8.2.3. **Controles de exposición medioambiental:**
Evitar su liberación al medio ambiente.
Las prescripciones de Sección 8 se refieren a las actividades desarrolladas en forma profesional, en condiciones y aplicación normales. Si las condiciones son diferentes de lo normal o el trabajo se lleva a cabo en condiciones extremas, se debe solicitar el consejo de un experto antes de decidir sobre nuevas medidas de protección.

SECCIÓN 9: PROPIEDADES FISICAS Y QUIMICAS

9.1. **Información sobre propiedades físicas y químicas básicas:**

Parámetro	Valor / Método de prueba / Comentarios
1. Estado físico	sólido, polvo/gránulos
2. Color	blanco, gris (la sustancia podría tener pequeñas impurezas de hierro que le dan una coloración de matices ligeros al producto final dependiendo del estado de oxidación del propio hierro (blanquecino, amarillo, rosa))
3. Olor, umbral olfativo	inodoro
4. Punto de fusión / punto de congelación	782 °C (101,3 kPa) (cloruro de calcio)
5. Punto de ebullición o punto inicial de ebullición e intervalo de ebullición	> 1600 °C (cloruro de calcio)
6. Inflamabilidad	no inflamable
7. Límite superior e inferior de explosividad	no aplicable
8. Punto de inflamación	no es relevante
9. Temperatura de autoignición	no es relevante
10. Temperatura de descomposición	sin datos*
11. pH	sin datos*
12. Viscosidad cinemática	no relevante (sólido)
13. Solubilidad en agua en otros solventes	soluble en agua / 745 g/l (20 °C) (cloruro de calcio) sin datos*
14. Coeficiente de reparto n-octanol/agua (valor logarítmico)	no es relevante para el cloruro de calcio ya que se descompone en agua (vida media inferior a 12 horas)
15. Presión de vapor	no es relevante
16. Densidad y/o densidad relativa	2,15 (20 °C) (cloruro de calcio)
17. Densidad de vapor relativa	no es relevante
18. Características de las partículas	sin datos*

9.2. **OTRA INFORMACIÓN:**

9.2.1. **Información relativa a las clases de peligro físico:**
Propiedades explosivas: no explosivo. Puede formar una mezcla explosiva de polvo-aire si se dispersa.
Propiedades comburentes: sin poder oxidante.

9.2.2. **Otras características de seguridad:**
No hay otras características disponibles.

*: El fabricante no realizó ninguna prueba sobre este parámetro para el producto, los resultados de las pruebas no están disponibles en el momento de la publicación de la hoja de datos o la propiedad no es aplicable para el producto.

SECCIÓN 10: ESTABILIDAD Y REACTIVIDAD

10.1. **Reactividad:**
El producto no es reactivo en la manipulación y el almacenamiento normales.

10.2. **Estabilidad química:**
El producto es estable en condiciones normales de manipulación y de almacenamiento.

10.3. **Posibilidad de reacciones peligrosas:**
El cloruro de calcio puede reaccionar violentamente con el agua.

10.4. **Condiciones que deben evitarse:**
Evite exponer la sustancia a la humedad durante el almacenamiento.

10.5. **Materiales incompatibles:**
El producto puede reaccionar con agentes oxidantes/agentes reductores fuertes.
En una solución acuosa, el cloruro de calcio puede ser corrosivo para los metales.

10.6. **Productos de descomposición peligrosos:**
No hay productos de descomposición peligrosos.

SECCIÓN 11: INFORMACIÓN TOXICOLÓGICA

11.1. **Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008:**
Toxicidad aguda: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Corrosión o irritación cutáneas: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Lesiones oculares graves o irritación ocular: Provoca irritación ocular grave.
Sensibilización respiratoria o cutánea: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Mutagenicidad en células germinales: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Carcinogenicidad: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Toxicidad para la reproducción: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Toxicidad específica en determinados órganos (STOT) — exposición única: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Toxicidad específica en determinados órganos (STOT) — exposición repetida: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Peligro por aspiración: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

11.1.1. **Se incluirán resúmenes de la información sobre las pruebas:**
Sin datos disponibles.

11.1.2. **Las propiedades toxicológicas pertinentes:**
Información sobre el producto:
El contacto repetido y prolongado puede causar deshidratación de la piel.
El producto irrita los ojos (OECD 405).
Si se inhala, el polvo puede irritar el tracto respiratorio superior y los pulmones.
Peligro por aspiración: No es relevante ya que el producto no es líquido.

Información sobre los componentes:
Cloruro de calcio (CAS: 10043-52-4):
DL_{50} (oral, rata): 2301 mg/kg
LD_{50} (dérmico, conejo): >5000 mg/kg
Corrosión o irritación cutáneas: No es corrosivo/irritante para la piel (OECD 404).

11.1.3. **Información sobre posibles vías de exposición:**
Ingestión, inhalación, contacto cutáneo y ocular.

11.1.4. **Síntomas relacionados con las características físicas, químicas y toxicológicas:**
Sin datos disponibles.

11.1.5. **Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo:**
Provoca irritación ocular grave.

11.1.6. **Efectos interactivos:**
Sin datos disponibles.

11.1.7. **Ausencia de datos específicos:**
Sin información.

11.2. **Información relativa a otros peligros:**
Propiedades de alteración endocrina:
Propiedad de alteración endocrina: La mezcla no contiene ningún componente que se considere un alterador endocrino, de acuerdo con el Reglamento Delegado (UE) 2017/2100 de la Comisión o el Reglamento (UE) 2018/605 de la Comisión a niveles del 0,1 % o superiores.
Otros datos:
Sin datos disponibles.

SECCIÓN 12: INFORMACIÓN ECOLÓGICA

12.1. **Toxicidad:**

El producto no está clasificado como peligroso para el medio ambiente y no se espera que tenga consecuencias ambientales negativas, pero debe manipularse de acuerdo con las buenas normas industriales.

Información sobre los componentes:
Cloruro de calcio (CAS: 10043-52-4):
LC_{50} (Pimephales promelas): 4630 mg/l/96h
EC_{50} (Daphnia magna): 2400 mg/l/48h
IC_{50} (Pseudokirchneriella subcapitata): >4000 mg/l/72h

12.2. **Persistencia y degradabilidad:**

Para las sustancias inorgánicas no es necesario realizar ninguna prueba de degradación.
Sin embargo, no se espera que el cloruro de calcio se someta a fotólisis o biodegradación.

12.3. **Potencial de bioacumulación:**

El cloruro de calcio se disocia fácilmente en iones de calcio y cloruro y ambos iones son constituyentes esenciales del cuerpo de todos los animales, por lo tanto, si se absorbe una gran cantidad, el cuerpo lo regula. Por tanto, no se espera una bioacumulación de cloruro de calcio.

12.4. **Movilidad en el suelo:**

El cloruro de calcio es soluble en agua y su presión de vapor es insignificante. No se espera que el cloruro de calcio se absorba en el suelo debido a sus propiedades de disociación y alta solubilidad en agua. En cuanto al comportamiento del calcio en el suelo, el ión calcio puede unirse a las partículas del suelo o puede formar sales inorgánicas estables con iones sulfato y carbonato. El ion cloruro es móvil en el suelo y eventualmente se drena al agua superficial porque se disuelve fácilmente en agua.

12.5. **Resultados de la valoración PBT y mPmB:**

Los criterios para PBT y mPmB no son aplicables a sustancias inorgánicas (cloruro de calcio).
Esta mezcla no contiene ingredientes considerados persistentes, bioacumulables y tóxicos (PBT), o muy persistentes y muy bioacumulables (mPmB) a niveles del 0,1% o superiores de acuerdo con el Anexo XIII del Reglamento (CE) n. º 1907/2006.

12.6. **Propiedades de alteración endocrina:**

Propiedad de alteración endocrina: La mezcla no contiene ningún componente que se considere un alterador endocrino, de acuerdo con el Reglamento Delegado (UE) 2017/2100 de la Comisión o el Reglamento (UE) 2018/605 de la Comisión a niveles del 0,1 % o superiores.

12.7. **Otros efectos adversos:**

Sin datos disponibles.

SECCIÓN 13: CONSIDERACIONES RELATIVAS A LA ELIMINACIÓN

13.1. **Métodos para el tratamiento de residuos:**

Realice la eliminación de acuerdo con las regulaciones locales.

13.1.1. **Información relativa a la eliminación del producto:**

Elimínese de acuerdo con la normativa aplicable.
Evite la descarga en desagües, cursos de agua, etc.
Código de Lista de Residuos:
Para este producto no se puede determinar un código de Lista de Residuos (Código de LoW) ya que solo la utilizacion definida por el usuario permite una asignación. El código de LoW tiene que ser determinado después de hablar con un especialista en eliminación de residuos.

13.1.2. **Información sobre la eliminación de los envases:**

Elimínese de acuerdo con la normativa aplicable.
El embalaje sin limpiar debe eliminarse de la misma manera que el producto en sí.
Los envases bien vacíos pueden tratarse como residuos convencionales y dejarse para incineración (recuperación de energía).
Los envases vacíos y limpios pueden tratarse como residuos convencionales y dejarse para su reciclaje.
Código de Lista de Residuos:
Envases contaminados:

15 01 10*	Envases que contienen restos de sustancias peligrosas o están contaminados por ellas

*: residuos peligrosos
Embalaje vacío:

15 01 01	Envases de papel y cartón
15 01 02	Envases de plástico
15 01 04	Envases metálicos
15 01 07	Envases de vidrio

13.1.3. **Las propiedades físicas/químicas que pueden influir en las opciones para el tratamiento de residuos:**

Sin datos disponibles.

13.1.4. Vertido de aguas residuales:
Sin datos disponibles.

13.1.5. Las precauciones especiales aplicables a las distintas opciones de tratamiento de residuos recomendadas:
Sin datos disponibles.

SECCIÓN 14: INFORMACIÓN RELATIVA AL TRANSPORTE

ADR/RID; ADN; IMDG; IATA:
No está sujeto a las regulaciones para el transporte de mercancías peligrosas.

14.1. **Número ONU o número ID:**
Sin número ONU.

14.2. **Designación oficial de transporte de las Naciones Unidas:**
Sin designación oficial de transporte.

14.3. **Clase(s) de peligro para el transporte:**
Sin clase(s) de peligro para el transporte.

14.4. **Grupo de embalaje:**
Sin grupo de embalaje.

14.5. **Peligros para el medio ambiente:**
Sin información pertinente disponible.

14.6. **Precauciones particulares para los usuarios:**
Sin información pertinente disponible.

14.7. **Transporte marítimo a granel con arreglo a los instrumentos de la OMI:**
No aplicable.

SECCIÓN 15: INFORMACIÓN REGLAMENTARIA

15.1. **Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla:**

REGLAMENTO (CE) Nº 1907/2006 DEL PARLAMENTO EUROPEO Y DEL CONSEJO de 18 de diciembre de 2006 relativo al registro, la evaluación, la autorización y la restricción de las sustancias y preparados químicos (REACH), por el que se crea la Agencia Europea de Sustancias y Preparados Químicos, se modifica la Directiva (CE) N° 1999/45 y se derogan el Reglamento (CEE) N° 793/93 del Consejo y el Reglamento (CE) N° 1488/94 de la Comisión, así como la Directiva (CEE) N° 76/769 del Consejo y las Directivas (CEE) N° 91/155, (CEE) N° 93/67, (CE) N° 93/105 y (CE) N° 2000/21 de la Comisión

REGLAMENTO (CE) Nº 1272/2008 DEL PARLAMENTO EUROPEO Y DEL CONSEJO de 16 de diciembre de 2008 sobre clasificación, etiquetado y envasado de sustancias y mezclas, y por el que se modifican y derogan las Directivas (CEE) N° 67/548 y (CE) N° 1999/45 y se modifica el Reglamento (CE) N° 1907/2006

REGLAMENTO (UE) 2020/878 DE LA COMISIÓN de 18 de junio de 2020 por el que se modifica el anexo II del Reglamento (CE) n.o 1907/2006 del Parlamento Europeo y del Consejo, relativo al registro, la evaluación, la autorización y la restricción de las sustancias y mezclas químicas (REACH)

El producto no contiene ninguna sustancia incluida en el Anexo XIV de REACH (Lista de autorización) o en la Lista de sustancias candidatas de la UE con sustancias altamente preocupantes (SVHC) en concentraciones ≥ 0,1 % (p/p).

El producto no se ve afectado por ninguna restricción según REACH, Anexo XVII.

15.2. **Evaluación de la seguridad química:** Se ha realizado una evaluación de la seguridad química para el cloruro de calcio.

SECCIÓN 16: OTRA INFORMACIÓN

Información relativa a la revisión de la ficha de seguridad:
La ficha de datos de seguridad se ha revisado de acuerdo con el Reglamento (UE) 2020/878 (Sección 16.1).
La composición e la clasificación de la mezcla no ha cambiado en comparación con la versión anterior.

Esta Hoja de datos de seguridad reemplaza todas las versiones anteriores de acuerdo con el Anexo II del Reglamento (CE) nº 1907/2006.

Referencias bibliográficas / fuentes de datos:
Versión anterior de la ficha de datos de seguridad (13/11/2020, versión 1))
Ficha de datos de seguridad expedida por el fabricante (20/04/2023, EN)

Métodos utilizados para la clasificación de acuerdo con el Reglamento (CE) N° 1272/2008:

Clasificación	Método
Lesiones oculares graves o irritación ocular, categoría 2 – H319	Basado en el método de cálculo

El exto completo de las indicaciones de peligro que aparecen en las Secciones 2 y 3 de la ficha de datos de seguridad:
H319 – Provoca irritación ocular grave.

Consejos de formación: El usuario de este producto debe tener una formación pertinente a las propiedades del producto y al uso pertinente.

Texto completo de las abreviaturas en la ficha de datos de seguridad:
ADN: Acuerdo europeo sobre el transporte internacional de mercancías peligrosas por vías navegables interiores.
ADR: Acuerdo sobre el transporte internacional de mercancías peligrosas por carretera.
ATE: Estimación de toxicidad aguda.
AOX: Halógenos orgánicos adsorbibles.
BCF: Factor de bioconcentración.
BOD: Demanda biológica de oxígeno.
N° CAS: Número de Servicio de Resumen Químico.
CLP: Reglamento (CE) Nº 1272/2008 sobre clasificación, etiquetado y envasado de sustancias y mezclas.
Efectos CMR: Efectos carcinógenos, mutagénicos, reprotóxicos.
COD: Demanda química de oxígeno.
CSA: Evaluación sobre la seguridad química.
CSR: Informe de seguridad química.
DNEL: Nivel derivado sin efecto.
ECHA: Agencia Europea de Sustancias Químicas.
EC: Comunidades Europeas (CE).
N° CE: Números EINECS y ELINCS (ver también EINECS y ELINCS).
EEC: Comunidad Económica Europea (CEE).
EEA: Área Económica Europea (AEE) (UE + Islandia, Liechtenstein y Noruega).
EINECS: Inventario europeo de sustancias químicas comerciales existentes.
ELINCS: Lista europea de sustancias químicas notificadas.
EN: Norma europea.
EU: Unión Europea (UE).
EuPCS: Sistema Europeo de Clasificación de Productos.
EWC: Catálogo europeo de residuos (reemplazado por LoW - ver más abajo).
GHS: Sistema armonizado mundial de clasificación y etiquetado de productos químicos.
IATA: Asociación Internacional de Transporte Aéreo.
ICAO-TI: Información técnica para el transporte seguro de mercancías peligrosas por vía aérea.
IMDG: Código Marítimo Internacional de Mercancías Peligrosas.
OMI: Organización Marítima Internacional (IMO).
IMSBC: Carga marítima internacional sólida a granel.
IUCLID: Base de Datos de Información Química Uniforme Internacional.
IUPAC: Unión Internacional de Química Pura y Aplicada.
Kow: Coeficiente reparto n-octanol/agua.
LC50: Concentración letal que resulta en un 50% de mortalidad.
LD50: Dosis letal que da como resultado una mortalidad del 50% (dosis letal media).
LoW: Lista de Residuos.
LOEC: Concentración de efecto observada más baja.
LOEL: Nivel de efecto observado más bajo.
NOEC: Concentración sin efecto observado.
NOEL: Nivel sin efecto observado.
NOAEC: Concentración de efecto adverso no observado.
NOAEL: Nivel de efecto adverso no observado.
OECD: Organización para la Cooperación y el Desarrollo Económico.
OSHA: Administración de Seguridad y Salud Ocupacional.
PBT: Persistente, bioacumulable y tóxica.
PNEC: Predicted No Effect Concentration (Concentración prevista sin efecto).

QSAR: Relación de Actividad de Estructura Cuantitativa.
REACH: Reglamento (EC) Nº 1907/2006 relativo al registro, evaluación, autorización y restricción de sustancias químicas.
RID: Reglamento relativo al Transporte Internacional de Mercancías Peligrosas por Ferrocarril.
SCBA: Equipo de respiración autónoma.
SDS: Ficha de datos de seguridad.
STOT: Toxicidad específica en determinados órganos.
SVHC: Sustancias altamente preocupantes.
UN: Naciones Unidas.
UVCB: Sustancias químicas de composición desconocida o variable, productos de reacción complejos o materiales biológicos.
VOC: Compuestos orgánicos volátiles.
vPvB: muy persistente y muy bioacumulable (mPmB).

Esta ficha de datos de seguridad se ha preparado a base de la documentación suministrada por el fabricante/proveedor y cumple con las regulaciones pertinentes.
Las informaciones, los datos y las sugerencias incluidos en esta ficha se proporcionan de buena fe y fueron obtenidas de fuentes fiables y se consideran verdaderas y precisas en la fecha de emisión; sin embargo, no se hace ninguna representación en cuanto a la exhaustividad de la información.
La ficha de datos de seguridad se utilizará solo como guía para manipular el producto. Durante el uso y/o la manipulación del producto, es posible que sea necesario cumplir otras normas también.
Se advierte a los usuarios que determinen la idoneidad y aplicabilidad de la información anterior para sus circunstancias y propósitos particulares y asuman todos los riesgos asociados con el uso de este producto.
Es responsabilidad del usuario cumplir plenamente con las regulaciones locales, nacionales e internacionales sobre el uso de este producto.

La Ficha de Datos de Seguridad fue preparada por:
MSDS-Europe
División international de Toxinfo Kft.

Ayuda profesional en cuanto a la explicación de la ficha de datos de seguridad:
+36 70 335 8480; info@msds-europe.com
www.msds-europe.com

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EXPOSURE SCENARIO FOR CALCIUM CHLORIDE	
No.	**Short title**
ES 1	Formulation or re-packing
ES 2	Use at industrial sites; Various sectors (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)
ES 3	Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 13, SU 19, SU 20)
ES 4	Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)
ES 5	Consumer use; PC 0, 2

ES 1: Formulation or re-packing

Title section

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

Environment	
1: Formulation into mixture	ERC 2
Worker	
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

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Product (article) characteristics
Covers concentrations up to 100 %
Solid, medium dustiness. Covers also liquid form
Technical and organisational conditions and measures
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.
Conditions and measures related to personal protection, hygiene and health evaluation
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.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
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).

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***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.*

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions. (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.01 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.04 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure. (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Formulation in closed batch processes with occasional controlled exposure. (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing or blending in batch processes (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of a substance or mixture during process sampling at dedicated facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of a substance or mixture during process sampling at non-dedicated facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.1 mg/m³ (TRA Workers 3.0)	0.02
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated-facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a, PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (PROC 8a estimate used to cover PROC 28)	0.1
Inhalation, local, acute	2 mg/m³ (PROC 8a estimate used to cover PROC 28)	0.2

ES 2: Use at industrial sites; Various sectors (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)

Title section

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

Sector of use: Agriculture, forestry, fishery (SU 1), Mining (without offshore industries) (SU 2a), Offshore industries (SU 2b), Manufacture of food products (SU 4), Manufacture of textiles, leather, fur (SU 5), Manufacture of pulp, paper and paper products (SU 6b), Manufacture of bulk, large scale chemicals (including petroleum products) (SU 8), Manufacture of fine chemicals (SU 9), Manufacture of rubber products (SU 11), Manufacture of plastics products, including compounding and conversion (SU 12), Manufacture of other non-metallic mineral products, e.g. plasters, cement (SU 13), Manufacture of basic metals, including alloys (SU 14), Manufacture of fabricated metal products, except machinery and equipment (SU 15), Manufacture of computer, electronic and optical products, electrical equipment (SU 16), General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment. (SU 17)

Environment	
1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)	ERC 4
Worker	
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: Calendering operations	PROC 6

8: *Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation*	PROC 8a, PROC 26
9: *Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation*	PROC 8a, PROC 26
10: *Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation*	PROC 8b, PROC 26
11: *Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation*	PROC 8b, PROC 26
12: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities with a local exhaust ventilation.*	PROC 8a, PROC 26
13: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities without a local exhaust ventilation.*	PROC 8a, PROC 26
14: *Transfer of substance or mixture (charging/discharging) at dedicated facilities with a local exhaust ventilation.*	PROC 8b, PROC 26
15: *Transfer of substance or mixture (charging/discharging) at dedicated facilities without a local exhaust ventilation.*	PROC 8b, PROC 26
16: *Equipment cleaning and maintenance at non-dedicated facility*	PROC 8a, PROC 28
17: *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
18: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation*	PROC 9, PROC 26
25: Tabletting, compression, extrusion, pelettisation, granulation	PROC 14
26: Use as laboratory reagent	PROC 15, PROC 26, PROC 27b
27: *Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity)*	PROC 23, PROC 27a
28: *Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity)*	PROC 23, PROC 27a
29: *Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities*	PROC 28

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Technical and organisational conditions and measures
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.
Conditions and measures related to personal protection, hygiene and health evaluation
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.
Other conditions affecting workers exposure
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
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

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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
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	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form*

without a local exhaust ventilation. **(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.* 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	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day

local exhaust ventilation **(PROC 9, PROC 26, PROC 27b)**	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
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
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)	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day

(PROC 23, PROC 27a)	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

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.01 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.04 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

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Worker exposure: Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing or blending in batch processes (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Calendering operations (PROC 6)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.1 mg/m³ (TRA Workers 3.0)	0.02
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.1 mg/m³ (TRA Workers 3.0)	0.02
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.05 mg/m³ (TRA Workers 3.0)	0.01
Inhalation, local, acute	0.2 mg/m³ (TRA Workers 3.0)	0.02

Worker exposure: Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

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

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

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

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

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

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.035 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.14 mg/m³ (TRA Workers 3.0)	0.014

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

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a, PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: 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)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity) (PROC 23, PROC 27a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity) (PROC 23, PROC 27a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.03 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.12 mg/m³ (TRA Workers 3.0)	0.012

Worker exposure: Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (ECETOC TRA Workers)	0.1
Inhalation, local, acute	2 mg/m³ (ECETOC TRA Workers)	0.2

Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Scaling tool: 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.

ES 3: Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 13, SU 19, SU 20)

Title section

ES name: Professional use; Indoor use

Sector of use: Other (SU 0), Agriculture, forestry, fishery (SU 1), Manufacture of other non-metallic mineral products, e.g. plasters, cement (SU 13), Building and construction work (SU 19), Health services (SU 20)

Environment	
1: Indoor use; Professional use	ERC 8a
Worker	
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: Use as laboratory reagent	PROC 15, PROC 26

11: Manual activities involving hand contact	PROC 19
12: Use of functional fluids in small devices	PROC 20
13: *Equipment cleaning and maintenance at non-dedicated facility*	PROC 8a, PROC 28
14: *Manual maintenance (cleaning and repair) of machinery at non-dedicated facility*	PROC 28

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Conditions and measures related to personal protection, hygiene and health evaluation
Use suitable eye protection.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
***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	Covers concentrations up to 100 %

continuous process with occasional controlled exposure or processes with equivalent containment conditions **(PROC 2)**	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	Covers concentrations up to 100 % Solid, medium dustiness

(dedicated filling line, including weighing) **(PROC 9, PROC 26)**	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.
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.

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.01 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.04 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Mixing or blending in batch processes (PROC 5)

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Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of substance or mixture (charging/discharging) at non-dedicated facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1.4 mg/m³ (TRA Workers 3.0)	0.28
Inhalation, local, acute	5.6 mg/m³ (TRA Workers 3.0)	0.56

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Manual activities involving hand contact (PROC 19)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Use of functional fluids in small devices (PROC 20)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a, PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Manual maintenance (cleaning and repair) of machinery at non-dedicated facility (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (ECETOC TRA Workers)	0.14
Inhalation, local, acute	2.8 mg/m³ (ECETOC TRA Workers)	0.28

Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Scaling tool: 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.

ES 4: Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)

Title section

ES name: Professional use; Outdoor use

Sector of use: Other (SU 0), Agriculture, forestry, fishery (SU 1), Manufacture of textiles, leather, fur (SU 5), Manufacture of other non-metallic mineral products, e.g. plasters, cement (SU 13), Building and construction work (SU 19), Health services (SU 20)

Environment	
1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)	ERC 8d
Worker	
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: Use as laboratory reagent	PROC 15, PROC 26

11: Mixing operations; Manual activities involving hand contact	PROC 19
12: *Equipment cleaning and maintenance at non-dedicated facility*	PROC 8a
13: Use of functional fluids in small devices	PROC 20

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Other conditions affecting workers exposure
Outdoor use
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
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	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day

or processes with equivalent containment conditions **(PROC 2)**	*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	Covers concentrations up to 100 %

(dedicated filling line, including weighing) **(PROC 9, PROC 26)**	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.
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*

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions. (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	7E-3 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.028 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing or blending in batch processes (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Absorgel

Worker exposure: Transfer of substance or mixture (charging/discharging) at non-dedicated facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing operations; Manual activities involving hand contact (PROC 19)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Use of functional fluids in small devices (PROC 20)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance: 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.

ES 5: Consumer use; PC 0, 2

Title section

ES name: Consumer use; Indoor or outdoor use

Product category: Adsorbents (PC 2)

Environment	
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
Consumer	
3: *Humidity adsorbants*	PC 0
4: Adsorbents	PC 2

Conditions of use affecting exposure

Control of consumer exposure: *Humidity adsorbants* (PC 0)

Product (article) characteristics
Covers concentrations up to 100 %
Solid, medium dustiness. Covers also liquid form
Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 1 events per day
Covers use up to 24 h
Information and behavioral advice for consumers

Requires room with good ventilation
Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Other conditions affecting consumers exposure
Release area <= 125 m2

Control of consumer exposure: Adsorbents (PC 2)

Product (article) characteristics
Covers concentrations up to 100 %
Solid, medium dustiness. Covers also liquid form
Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 1 events per day
Covers use up to 24 h
Information and behavioral advice for consumers
Requires room with good ventilation
Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Other conditions affecting consumers exposure
Release area <= 125 m2

Exposure estimation and reference to its source

Consumer exposure: *Humidity adsorbants* (PC 0)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	5E-3 mg/m³ (ConsExpo)	< 0.01
Inhalation, local, acute	0.01 mg/m³ (ConsExpo)	< 0.01

Absorgel

Consumer exposure: Adsorbents (PC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	5E-3 mg/m³ (ConsExpo)	< 0.01
Inhalation, local, acute	0.01 mg/m³ (ConsExpo)	< 0.01