(de acuerdo con el Reglamento (UE) 2020/878)

445A2T-TIOCIANATO SODICO



Versión 1 Fecha de emisión: 13/08/2019

Versión 16 (sustituye a la versión 15) Fecha de revisión: 20/12/2022 Fecha de impresión: 20/12/2022

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

1.1 Identificador de producto.

Nombre del producto: TIOCIANATO SODICO

Código del producto: 445A2T

Nombre químico: tiocianato de sodio

N. CAS: 540-72-7 N. CE: 208-754-4

N. registro: 01-2119543700-47-XXXX

1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados.

Genérico industrial

Usos desaconsejados:

Usos distintos a los aconsejados.

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

Empresa: Barcelonesa de Drogas y Productos Químicos, S.A.

Dirección: Crom, 14 - P.I. FAMADES Población: Cornellà del Llobregat

Provincia: Barcelona Teléfono: 93 377 02 08 Fax: 93 377 42 49

E-mail: barcelonesa@barcelonesa.com Web: www.grupbarcelonesa.com

1.4 Teléfono de emergencia: +34 933 770 208 (Sólo disponible en horario de oficina; Lunes-Viernes; 09:00-18:00)

SECCIÓN 2: IDENTIFICACIÓN DE LOS PELIGROS.

2.1 Clasificación de la sustancia o de la mezcla.

Según el Reglamento (EU) No 1272/2008:

Acute Tox. 4 : Nocivo en contacto con la piel. Acute Tox. 4 : Nocivo en caso de inhalación. Acute Tox. 4 : Nocivo en caso de ingestión. Eye Dam. 1 : Provoca lesiones oculares graves.

Aquatic Chronic 3: Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

2.2 Elementos de la etiqueta.

Etiquetado conforme al Reglamento (EU) No 1272/2008:

Pictogramas:





Palabra de advertencia:

Peligro

Indicaciones de peligro:

H302+H312+H332 Nocivo en caso de ingestión, contacto con la piel o inhalación. H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

H318 Provoca lesiones oculares graves.

Consejos de prudencia:

P261 Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.
P271 Utilizar únicamente en exteriores o en un lugar bien ventilado.

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P273 Evitar su liberación al medio ambiente.

P280 Llevar guantes/prendas/gafas/máscara de protección.

P301 EN CASO DE INGESTIÓN:

P302+P352 EN CASO DE CONTACTO CON LA PIEL: Lavar con abundante agua

P304+P340 EN CASO DE INHALACIÓN: Transportar a la persona al aire libre y mantenerla en una posición que le facilite

la respiración.

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.

P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas. P501 Eliminar el contenido/el recipiente en un tratador autorizado de residuos.

Indicaciones de peligro suplementarias:

EUH032 En contacto con ácidos libera gases muy tóxicos.

2.3 Otros peligros.

La sustancia no es PBT

La sustancia no es mPmB

La sustancia no tiene propiedades de alteración endocrina.

En condiciones de uso normal y en su forma original, el producto no tiene ningún otro efecto negativo para la salud y el medio ambiente.

SECCIÓN 3: COMPOSICIÓN/INFORMACIÓN SOBRE LOS COMPONENTES.

3.1 Sustancias.

			(*)Clasificación - Reglamento 1272/2008	
Identificadores	Nombre	Concentración	Clasificación	Límites de concentración específicos y Estimación de Toxicidad Aguda
N. CAS: 540-72-7 N. CE: 208-754-4	tiocianato de sodio		Acute Tox. 4, H312 - Acute Tox. 4, H332 - Acute Tox. 4, H302 - Aquatic Chronic 3, H412	

3.2 Mezclas.

No Aplicable.

SECCIÓN 4: PRIMEROS AUXILIOS.

4.1 Descripción de los primeros auxilios.

En los casos de duda, o cuando persistan los síntomas de malestar, solicitar atención médica. No administrar nunca nada por vía oral a personas que se encuentren inconscientes.

<u>Inhalación.</u>

Situar al accidentado al aire libre, mantenerle caliente y en reposo, si la respiración es irregular o se detiene, practicar respiración artificial. No administrar nada por la boca. Si está inconsciente, ponerle en una posición adecuada y buscar ayuda médica. Es recomendable para las personas que dispensan los primeros auxilios el uso de equipos de protección individual (ver sección 8).

Contacto con los ojos.

Lavar abundantemente los ojos con agua limpia y fresca durante, por lo menos, 10 minutos, tirando hacia arriba de los párpados y buscar asistencia médica. No permita que la persona se frote el ojo afectado.

Contacto con la piel.

Quitar la ropa contaminada. Lavar la piel vigorosamente con agua y jabón o un limpiador de piel adecuado. NUNCA utilizar disolventes o diluyentes. Es recomendable para las personas que dispensan los primeros auxilios el uso de equipos de protección individual (ver sección 8).

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Ingestión.

Si accidentalmente se ha ingerido, buscar inmediatamente atención médica. Mantenerle en reposo. NUNCA provocar el vómito.

4.2 Principales síntomas y efectos, agudos y retardados.

Producto Corrosivo, el contacto con los ojos o con la piel puede producir quemaduras, la ingestión o la inhalación puede producir daños internos, en el caso de producirse se requiere asistencia médica inmediata.

Producto Nocivo, una exposición prolongada por inhalación puede causar efectos anestésicos y la necesidad de asistencia médica inmediata.

El contacto con los ojos puede producir daños irreversibles.

4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente.

En los casos de duda, o cuando persistan los síntomas de malestar, solicitar atención médica. No administrar nunca nada por vía oral a personas que se encuentren inconscientes. No inducir el vómito. Si la persona vomita, despeje las vías respiratorias.

SECCIÓN 5: MEDIDAS DE LUCHA CONTRA INCENDIOS.

El producto no presenta ningún riesgo particular en caso de incendio.

5.1 Medios de extinción.

Medios de extinción apropiados:

Polvo extintor o CO2. En caso de incendios más graves también espuma resistente al alcohol y agua pulverizada.

Medios de extinción no apropiados:

No usar para la extinción chorro directo de agua. En presencia de tensión eléctrica no es aceptable utilizar agua o espuma como medio de extinción.

5.2 Peligros específicos derivados de la sustancia o la mezcla.

Riesgos especiales.

La exposición a los productos de combustión o descomposición puede ser perjudicial para la salud.

5.3 Recomendaciones para el personal de lucha contra incendios.

Refrigerar con aqua los tanques, cisternas o recipientes próximos a la fuente de calor o fuego. Tener en cuenta la dirección del viento. Evitar que los productos utilizados en la lucha contra incendio pasen a desagües, alcantarillas o cursos de agua. Los restos de producto y medios de extinción pueden contaminar el medio ambiente acuático.

Equipo de protección contra incendios.

Según la magnitud del incendio, puede ser necesario el uso de trajes de protección contra el calor, equipo respiratorio autónomo, guantes, gafas protectoras o máscaras faciales y botas.

SECCIÓN 6: MEDIDAS EN CASO DE VERTIDO ACCIDENTAL.

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

Para control de exposición y medidas de protección individual, ver sección 8.

6.2 Precauciones relativas al medio ambiente.

Producto peligroso para el medio ambiente, en caso de producirse grandes vertidos o si el producto contamina lagos, ríos o alcantarillas, informar a las autoridades competentes, según la legislación local. Evitar la contaminación de desagües, aguas superficiales o subterráneas, así como del suelo.

6.3 Métodos y material de contención y de limpieza.

Contener y recoger el vertido con material absorbente inerte (tierra, arena, vermiculita, tierra de diatomeas...) y limpiar la zona inmediatamente con un descontaminante adecuado.

Depositar los residuos en envases cerrados y adecuados para su eliminación, de conformidad con las normativas locales y nacionales (ver sección 13).

6.4 Referencia a otras secciones.

Para control de exposición y medidas de protección individual, ver sección 8.

Para la eliminación de los residuos, seguir las recomendaciones de la sección 13.

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SECCIÓN 7: MANIPULACIÓN Y ALMACENAMIENTO.

7.1 Precauciones para una manipulación segura.

Para la protección personal, ver sección 8.

En la zona de aplicación debe estar prohibido fumar, comer y beber.

Cumplir con la legislación sobre seguridad e higiene en el trabajo.

No emplear nunca presión para vaciar los envases, no son recipientes resistentes a la presión. Conservar el producto en envases de un material idéntico al original.

7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades.

Almacenar según la legislación local. Observar las indicaciones de la etiqueta. Almacenar los envases entre 0 y 40 °C, en un lugar seco y bien ventilado, lejos de fuentes de calor y de la luz solar directa. Mantener lejos de puntos de ignición. Mantener lejos de agentes oxidantes y de materiales fuertemente ácidos o alcalinos. No fumar. Evitar la entrada a personas no autorizadas. Una vez abiertos los envases, han de volverse a cerrar cuidadosamente y colocarlos verticalmente para evitar derrames.

El producto no se encuentra afectado por la Directiva 2012/18/UE (SEVESO III).

7.3 Usos específicos finales.

No disponible.

SECCIÓN 8: CONTROLES DE EXPOSICIÓN/PROTECCIÓN INDIVIDUAL.

8.1 Parámetros de control.

El producto NO contiene sustancias con Valores Límite Ambientales de Exposición Profesional.El producto NO contiene sustancias con Valores Límite Biológicos.

Niveles de concentración DNEL/DMEL:

Nombre	DNEL/DMEL	Tipo	Valor
tiocianato de sodio	DNEL	Inhalación, Crónico, Efectos sistémicos	3 (mg/m ³)
N. CAS: 540-72-7	(Trabajadores)		
N. CE: 208-754-4			

DNEL: Derived No Effect Level, (nivel sin efecto obtenido) nivel de exposición a la sustancia por debajo del cual no se prevén efectos adversos.

DMEL: Derived Minimal Effect Level, nivel de exposición que corresponde a un riesgo bajo, que debe considerarse un riesgo mínimo tolerable.

8.2 Controles de la exposición.

Medidas de orden técnico:

Proveer una ventilación adecuada, lo cual puede conseguirse mediante una buena extracción-ventilación local y un buen sistema general de extracción.

Concentración:	100 %
Usos:	Genérico industrial
Protección resp	iratoria:
EPI:	Máscara filtrante para la protección contra gases y partículas
Características:	Marcado «CE» Categoría III. La máscara debe tener amplio campo de visión y forma anatómica para ofrecer estanqueidad y hermeticidad.
Normas CEN:	EN 136, EN 140, EN 405
Mantenimiento:	No se debe almacenar en lugares expuestos a temperaturas elevadas y ambientes húmedos antes de su utilización. Se debe controlar especialmente el estado de las válvulas de inhalación y exhalación del adaptador facial.
Observaciones:	Se deberán leer atentamente las instrucciones del fabricante al respecto del uso y mantenimiento del equipo. Se acoplarán al equipo los filtros necesarios en función de las características específicas del riesgo (Partículas y aerosoles: P1-P2-P3, Gases y vapores: A-B-E-K-AX) cambiándose según aconseje el fabricante.
Tipo de filtro necesario:	A2
Protección de la	ns manos:
EPI:	Guantes no desechables de protección contra productos químicos

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Marcado «CE» Categoría III. Se debe revisar la lista de productos químicos frente Características:

a los cuales se ha ensayado el guante. EN 374-1, En 374-2, EN 374-3, EN 420 Normas CFN:

Deberá establecerse un calendario para la sustitución periódica de los guantes a fin de garantizar que se

cambien antes de ser permeados por los contaminantes. La utilización de quantes contaminados puede Mantenimiento:

ser más peligrosa que la falta de utilización, debido a que el contaminante puede irse acumulando en el

material componente del quante.

Se sustituirán siempre que se observen roturas, grietas o deformaciones y cuando la suciedad exterior Observaciones:

pueda disminuir su resistencia.

PVC (Cloruro de Tiempo de Espesor del Material: 0,35 > 480 polivinilo) penetración (min.): material (mm):

Protección de los ojos:

Gafas de protección con montura integral FPI:

Marcado «CE» Categoría II. Protector de ojos de montura integral para la Características:

protección contra salpicaduras de líquidos, polvo, humos, nieblas y vapores.

Normas CEN: EN 165, EN 166, EN 167, EN 168

La visibilidad a través de los oculares debe ser óptima para lo cual estos elementos se deben limpiar a Mantenimiento: diario, los protectores deben desinfectarse periódicamente siguiendo las instrucciones del fabricante.

Indicadores de deterioro pueden ser: coloración amarilla de los oculares, arañazos superficiales en los Observaciones:

oculares, rasgaduras, etc.

Protección de la piel:

FPI: Ropa de protección contra productos químicos

Marcado «CE» Categoría III. La ropa debe tener un buen ajuste. Se debe fijar el

nivel de protección en función un parámetro de ensayo denominado "Tiempo de Características:

paso" (BT. Breakthrough Time) el cual indica el tiempo que el producto químico

tarda en atravesar el material.

Normas CEN: EN 464,EN 340, EN 943-1, EN 943-2, EN ISO 6529, EN ISO 6530, EN 13034

Se deben seguir las instrucciones de lavado y conservación proporcionadas por el fabricante para Mantenimiento:

garantiza una protección invariable.

El diseño de la ropa de protección debería facilitar su posicionamiento correcto y su permanencia sin Observaciones:

desplazamiento, durante el período de uso previsto, teniendo el cuenta los factores ambientales, junto

con los movimientos y posturas que el usuario pueda adoptar durante su actividad. Calzado de seguridad frente a productos guímicos y con propiedades antiestáticas

FPI:

Marcado «CE» Categoría III. Se debe revisar la lista de productos químicos frente Características:

a los cuales es resistente el calzado.

EN ISO 13287, EN 13832-1, EN 13832-2, EN 13832-3, EN ISO 20344, EN ISO Normas CEN:

Para el correcto mantenimiento de este tipo de calzado de seguridad es imprescindible tener en cuenta Mantenimiento:

las instrucciones especificadas por el fabricante. El calzado se debe reemplazar ante cualquier indicio de

El calzado se debe limpiar regularmente y secarse cuando esté húmedo pero sin colocarse demasiado Observaciones:

cerca de una fuente de calor para evitar el cambio brusco de temperatura.

SECCIÓN 9: PROPIEDADES FÍSICAS Y QUÍMICAS.

9.1 Información sobre propiedades físicas y químicas básicas.

Estado físico: Sólido Color: Incoloro Olor: Odorless

Umbral olfativo: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Punto de fusión: 308 °C a 101.3 kPa °C

Punto de congelación: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Punto/Punto inicial/intervalo de ebullición: 360 °C

Inflamabilidad: No

Límite inferior de explosión: No aplicable/No disponible debido a la naturaleza/las propiedades del producto. Límite superior de explosión: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Punto de inflamación: 179 ºC

Temperatura de auto-inflamación: No aplicable/No disponible debido a la naturaleza/las propiedades del producto. Temperatura de descomposición: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Viscosidad cinemática: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Solubilidad: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Hidrosolubilidad: 1000 g/L a 20 °C

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Liposolubilidad: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Coeficiente de reparto (n-octanol/agua)(valor logaritmico): Log Kow (Log Pow): 2.52

Presión de vapor: <0 Pa

Densidad absoluta: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Densidad relativa: 1.76 (20°)

Densidad de vapor: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Características de las partículas: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

9.2 Otros datos.

Viscosidad: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Propiedades explosivas: No aplicable/No disponible debido a la naturaleza/las propiedades del producto. Propiedades comburentes: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

Punto de gota: No aplicable/No disponible debido a la naturaleza/las propiedades del producto. Centelleo: No aplicable/No disponible debido a la naturaleza/las propiedades del producto. % Sólidos: No aplicable/No disponible debido a la naturaleza/las propiedades del producto.

SECCIÓN 10: ESTABILIDAD Y REACTIVIDAD.

10.1 Reactividad.

En contacto con ácidos libera gases muy tóxicos.

10.2 Estabilidad química.

Inestable en contacto con:

- Bases.

10.3 Posibilidad de reacciones peligrosas.

Puede producirse una neutralización en contacto con bases.

10.4 Condiciones que deben evitarse.

- Evitar el contacto con bases.

10.5 Materiales incompatibles.

Evitar los siguientes materiales:

- Bases.

10.6 Productos de descomposición peligrosos.

Dependiendo de las condiciones de uso, pueden generarse los siguientes productos:

- Vapores o gases corrosivos.

SECCIÓN 11: INFORMACIÓN TOXICOLÓGICA.

11.1 Información sobre las clases de peligro definidas en el Reglamento (CE) nº 1272/2008.

No existen datos disponibles ensayados del producto.

Las salpicaduras en los ojos pueden causar irritación y daños reversibles.

a) toxicidad aguda;

Producto clasificado:

Toxicidad cutánea aguda, Categoría 4: Nocivo en contacto con la piel.

Toxicidad aguda por inhalación, Categoría 4: Nocivo en caso de inhalación.

Toxicidad oral aguda, Categoría 4: Nocivo en caso de ingestión.

Estimación de la toxicidad aguda (ATE):

Sustancias:

ATE (Cutánea) = 1.100 mg/kg

ATE (Oral) = 500 mg/kg

b) corrosión o irritación cutáneas;

Datos no concluyentes para la clasificación.

c) lesiones oculares graves o irritación ocular;

Producto clasificado:

Lesión ocular grave, Categoría 1: Provoca lesiones oculares graves.

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d) sensibilización respiratoria o cutánea; Datos no concluyentes para la clasificación.

e) mutagenicidad en células germinales; Datos no concluyentes para la clasificación.

f) carcinogenicidad;

Datos no concluyentes para la clasificación.

g) toxicidad para la reproducción;

Datos no concluyentes para la clasificación.

h) toxicidad específica en determinados órganos (STOT) - exposición única; Datos no concluyentes para la clasificación.

i) toxicidad específica en determinados órganos (STOT) - exposición repetida; Datos no concluyentes para la clasificación.

j) peligro por aspiración;

Datos no concluyentes para la clasificación.

11.2 Información relativa a otros peligros.

Propiedades de alteración endocrina.

Este producto no contiene componentes con propiedades de alteración endocrina con efectos sobre la salud humana. Otros datos.

No existe información disponible sobre otros efectos adversos para la salud.

SECCIÓN 12: INFORMACIÓN ECOLÓGICA.

12.1 Toxicidad.

No se dispone de información relativa a la Ecotoxicidad.

12.2 Persistencia y degradabilidad.

No se dispone de información relativa a la biodegradabilidad.

No se dispone de información relativa a la degradabilidad.

No existe información disponible sobre la persistencia y degradabilidad del producto.

12.3 Potencial de bioacumulación.

No se dispone de información relativa a la Bioacumulación.

12.4 Movilidad en el suelo.

No existe información disponible sobre la movilidad en el suelo.

No se debe permitir que el producto pase a las alcantarillas o a cursos de agua.

Evitar la penetración en el terreno.

12.5 Resultados de la valoración PBT y mPmB.

No existe información disponible sobre la valoración PBT y mPmB del producto.

12.6 Propiedades de alteración endocrina.

Este producto no contiene componentes con propiedades de alteración endocrina sobre el medio ambiente.

12.7 Otros efectos adversos.

No existe información disponible sobre otros efectos adversos para el medio ambiente.

SECCIÓN 13: CONSIDERACIONES RELATIVAS A LA ELIMINACIÓN.

13.1 Métodos para el tratamiento de residuos.

No se permite su vertido en alcantarillas o cursos de agua. Los residuos y envases vacíos deben manipularse y eliminarse de acuerdo con las legislaciones local/nacional vigentes.

Seguir las disposiciones de la Directiva 2008/98/CE respecto a la gestión de residuos.

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SECCIÓN 14: INFORMACIÓN RELATIVA AL TRANSPORTE.

No es peligroso en el transporte. En caso de accidente y vertido del producto actuar según el punto 6.

14.1 Número ONU o número ID.

No es peligroso en el transporte.

14.2 Designación oficial de transporte de las Naciones Unidas.

Descripción:

ADR/RID: No es peligroso en el transporte. IMDG: No es peligroso en el transporte. ICAO/IATA: No es peligroso en el transporte.

14.3 Clase(s) de peligro para el transporte.

No es peligroso en el transporte.

14.4 Grupo de embalaje.

No es peligroso en el transporte.

14.5 Peligros para el medio ambiente.

No es peligroso en el transporte.

Transporte por barco, FEm - Fichas de emergencia (F – Incendio, S – Derrames): No aplicable.

14.6 Precauciones particulares para los usuarios.

No es peligroso en el transporte.

14.7 Transporte marítimo a granel con arreglo a los instrumentos de la OMI.

No es peligroso en el transporte.

SECCIÓN 15: INFORMACIÓN REGLAMENTARIA.

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

El producto no está afectado por el Reglamento (CE) nº 1005/2009 del Parlamento Europeo y del Consejo, de 16 de septiembre de 2009, sobre las sustancias que agotan la capa de ozono.

El producto no se encuentra afectado por la Directiva 2012/18/UE (SEVESO III).

El producto no está afectado por el Reglamento (UE) No 528/2012 relativo a la comercialización y el uso de los biocidas. El producto no se encuentra afectado por el procedimiento establecido en el Reglamento (UE) No 649/2012, relativo a la exportación e importación de productos químicos peligrosos.

Clase de contaminante para el agua (Alemania): WGK 1: Poco peligroso para el agua. (Autoclasificado según Reglamento AwSV)

15.2 Evaluación de la seguridad química.

No se ha llevado a cabo una evaluación de la seguridad química del producto. Se dispone de Escenario de Exposición del producto.

SECCIÓN 16: OTRA INFORMACIÓN.

Códigos de clasificación:

Acute Tox. 4: Toxicidad cutánea aguda, Categoría 4 Acute Tox. 4: Toxicidad aguda por inhalación, Categoría 4

Acute Tox. 4: Toxicidad oral aguda, Categoría 4

Aquatic Chronic 3: Efectos crónicos para el medio ambiente acuático, Categoría 3

Eye Dam. 1 : Lesión ocular grave, Categoría 1

(de acuerdo con el Reglamento (UE) 2020/878)

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Modificaciones respecto a la versión anterior:

- Cambios en la información del proveedor (SECCIÓN 1.3).
- Cambio en el teléfono de emergencia (SECCIÓN 1.4).
- Modificación de peligros específicos (SECCIÓN 2.3).
- Modificación en las medidas de lucha contra incendios (SECCIÓN 5.2).
- Modificaciones en las medidas en caso de vertido accidental (SECCIÓN 6.1).
- Modificaciones en las medidas en caso de vertido accidental (SECCIÓN 6.2).
- Modificaciones en las precauciones de manipulación y almacenamiento (SECCIÓN 7.1).
- Modificaciones de los equipos de protección individual (SECCIÓN 8.2).
- Modificación en los valores de las propiedades físico-químicas (SECCIÓN 9).
- Cambio en la clasificación de peligrosidad (SECCIÓN 11.1).
- Modificación de la clasificación ADR/IMDG/ICAO/IATA/RID (SECCIÓN 14).
- Añadidas abreviaturas y acrónimos (SECCIÓN 16).

Clasificación y procedimiento utilizado para determinar la clasificación de las mezclas con arreglo al Reglamento (CE) nº 1272/2008 [CLP]:

Peligros físicos Conforme a datos obtenidos de los ensayos

Peligros para la salud Método de cálculo Peligros para el medio ambiente Método de cálculo

Se aconseja realizar formación básica con respecto a seguridad e higiene laboral para realizar una correcta manipulación del producto.

Información sobre el Inventario TSCA (Toxic Substances Control Act) USA:

N. CAS	Nombre	Estado
540-72-7	tiocianato de sodio	Registrada

Inventario DSL de Canadá (Lista de sustancias domésticas): Estado de registro			
N. CAS	Nombre	Estado DSL	Estado NDSL
540-72-7	tiocianato de sodio	Registrada	No

Se dispone de Escenario de Exposición del producto.

Abreviaturas y acrónimos utilizados:

AwSV: Reglamento de Instalaciones para la manipulación de sustancias peligrosas para el agua.

CEN: Comité Europeo de Normalización.

DMEL: Derived Minimal Effect Level, nivel de exposición que corresponde a un riesgo bajo, que debe

considerarse un riesgo mínimo tolerable.

DNEL: Derived No Effect Level, (nivel sin efecto obtenido) nivel de exposición a la sustancia por debajo

del cual no se prevén efectos adversos.

EPI: Equipo de protección personal. WGK: Clases de peligros para el agua.

Principales referencias bibliográficas y fuentes de datos:

http://eur-lex.europa.eu/homepage.html

http://echa.europa.eu/

Reglamento (UE) 2020/878.

Reglamento (CE) No 1907/2006.

Reglamento (EU) No 1272/2008.

La información facilitada en esta ficha de Datos de Seguridad ha sido redactada de acuerdo con el 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

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Europeo y del Consejo, relativo al registro, la evaluación, la autorización y la restricción de las sustancias y mezclas químicas (REACH).

La información de esta Ficha de Datos de Seguridad del Producto está basada en los conocimientos actuales y en las leyes vigentes de la CE y nacionales, en cuanto que las condiciones de trabajo de los usuarios están fuera de nuestro conocimiento y control. El producto no debe utilizarse para fines distintos a aquellos que se especifican, sin tener primero una instrucción por escrito, de su manejo. Es siempre responsabilidad del usuario tomar las medidas oportunas con el fin de cumplir con las exigencias establecidas en las legislaciones.





Annex to extended safety data sheet (eSDS)

ES1: Manufacture of Sodium thiocyanate (100% solid and 50% aqueous solution)

1 Description of the ES 1

•	% solid and 50% aqueous solution CAS: 540-72-7
Section 1	Exposure Scenario Title
Title	Manufacture of NaSCN (, low dustiness)
Use Descriptor	Sector of Use: Industrial (SU3, SU8)
	Process Categories: PROC2, PROC8b, PROC15;
	Environmental Release Categories: ERC 1
Processes, tasks, activities covered	Manufacture of NaSCN. Includes recycling/recovery, material transfers, storage, maintenance and (un)loading (including road car and bulk container), sampling and associated laboratory activities.
GES exposure criteria	Worker DNEL (inhalation): 3.00 mg/m³ DNEL (skin): 1.68 mg/kg bw/day Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
	Environmental PNECs (SCN- equivalent)
	PNEC aqua (freshwater): 0.095 mg/L
	PNEC aqua (marine water): 0.0095 mg/L
	PNEC aqua (intermittent release): 0.0272 mg/L
	PNEC sediment (freshwater): 0.543 mg/kg sediment dw
	PNEC sediment (marine water): 0.0543 mg/kg sediment dw
	PNEC soil: 6.336 mg/kg soil dw
	PNEC stp: 30 mg/L
	PNEC oral: 1.667 mg/kg food
	Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	
Physical form of product	Solid, low dustiness [OC1];
, o.ouo o. p. oudet	Solid, vapor pressure: << 0.01 Pa
	Aqueous solution, vapor pressure of substance << 0.01 Pa (disassociation is complete)
	Exposure only by aerosols
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13]
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13].;
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	Not applicable
Other Operational Conditions affecting worker exposure	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure operatives are trained to minimize exposures [EI119].
	Assumes use at not > 20°C above ambient [G15];

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	Indoor [OC8] and Outdoor [OC9]
Contributing Scenarios	Risk Management Measures
Due to eye irritating properties of the substance	e: Use suitable eye protection [PPE26].
Avoid skin contact.	
PROC 2	
Automated process with (semi) closed	No specific measures identified [EI18].
systems [CS93]; Continuous process [CS54];	
Process sampling [CS2] (open systems)	
[CS108].	Recommendation:
	Ensure the system is closed.
General exposures (closed systems) [CS15];	Clear transfer lines prior to de-coupling [E39]. Clear spills immediately [C&H13].
Material transfers [CS3]; Drying and storage	
[CS12]; Bulk product storage [CS85];	
Centrifuging including charging [CS127].	
PROC 8b	
Product packaging [CS124]. Dedicated facility	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
[CS81]; General exposures (open systems)	training [PPE16].
[CS16]. Material transfers [CS3]. With	
sample collection [CS56].	Recommendation:
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Use bulk
	or semi-bulk handling systems [E43]; Use drum pumps [E53]. Clean equipment and the
DD00.45	work area every day [C&H3]. Clear spills immediately [C&H13].
PROC 15	No specific measures identified [EI18].
Laboratory activities [CS36]. Small scale [CS61]. Manual [CS34].	
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Amounts used	Fraction of EU tonnage used in region: 1 [A1].
	Regional use tonnage (tonnes/year): 15260 as SCN [A2]. Fraction of Regional tonnage
	used locally: 1 [A3].
	Annual site tonnage (tonnes/year): 15260as SCN ⁻ [A5]
Frequency and duration of use	Continuous release. [FD2] Emission Days (days/year): 365 [FD4].
Other Operational Conditions of use affecting	Product applied in aqueous process solution with negligible volatilization [OOC23].
environmental exposure	
	Waste water is collected in a tank. The quality of the water in the tank is checked regularly.
	Generally one tank per day is discharged to the STP which equals 10,000 m ³ /year with a
	concentration of 500 mg/l SCN ⁻ .
	Local freshwater dilution factor: 4.3E+4 [EF1] (based on standard STP).
	Sewage sludge should not be applied onto soil.
	Filter material used for cleaning of the product should be collected and incinerated.
	Cooling water used in process: 32250 m³/year; 1 mg/l SCN⁻. Discharge of cooling water is directly to surface water (river Rhine). Local freshwater dilution factor: 1.426E+3 [EF1]. Flow rate of the river: 1,000 m³/s (worst case) (source: www.hgk.de).
	Concentration in surface water during emission episode: 7.0E-4 mg/l SCN ⁻ .

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	Diogas y Froductos edifficos
Technical onsite conditions and measures to	All waste water should go to a STP.
reduce or limit discharges, air emissions and	
releases to soil	Risk from environmental exposure is driven by freshwater. [TCR1a].
Organization measures to prevent/limit	Ensure control measures are regularly inspected and maintained [E6]
release from site	Site should have a spill plan to ensure that adequate safeguards are in place to minimize
	the impact of episodic releases [W2].
Conditions and measures related to municipal	Prevent environmental discharge consistent with regulatory requirements [OMS4].
sewage treatment plant	Sewage sludge should not be applied onto soil.
Conditions and measures related to external	Filter material used for cleaning of the product should be collected and incinerated.
treatment of waste for disposal	
·	External treatment and disposal of waste should comply with applicable local and/or
	national regulations.[ETW3]
Conditions and measures related to external	Not applicable
recovery of waste	The state of the s
Other environmental control measures	Not applicable
additional to above	The approach
Section 3	Exposure Estimation
3.1. Health.	Exposure Estimation
	ed the applicable exposure limits (given in section 8 of the SDS) when the operational
	· · · · · · · · · · · · · · · · · · ·
conditions/risk management measures given i	
3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the
	operational conditions/risk management measures given in section 2 are implemented
O a skin and A	[G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	
	nate workplace exposures unless otherwise indicated [G21] version 2.0
4.2. Environment	T
	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise
	indicated.
Section 5	
	Additional good practice advice beyond the RFACH Chemical Safety Assessment
-	Additional good practice advice beyond the REACH Chemical Safety Assessment
	Additional good practice advice beyond the REACH Chemical Safety Assessment
Control of Worker Exposure	
	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in
Control of Worker Exposure	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection
Control of Worker Exposure Cleaning [CS47]	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
Control of Worker Exposure	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a
Control of Worker Exposure Cleaning [CS47] Emptying bags	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling.
Control of Worker Exposure Cleaning [CS47]	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling. Skin protection:
Control of Worker Exposure Cleaning [CS47] Emptying bags	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling. Skin protection: Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on
Control of Worker Exposure Cleaning [CS47] Emptying bags	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling. Skin protection: Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on and off the gloves, and how to use gloves in a proper way.
Control of Worker Exposure Cleaning [CS47] Emptying bags	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling. Skin protection: Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on and off the gloves, and how to use gloves in a proper way. Respiratory protection:
Control of Worker Exposure Cleaning [CS47] Emptying bags	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling. Skin protection: Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on and off the gloves, and how to use gloves in a proper way. Respiratory protection: Respirators: - Wear a disposable mask only once
Control of Worker Exposure Cleaning [CS47] Emptying bags	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling. Skin protection: Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on and off the gloves, and how to use gloves in a proper way. Respiratory protection:
Control of Worker Exposure Cleaning [CS47] Emptying bags	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling. Skin protection: Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on and off the gloves, and how to use gloves in a proper way. Respiratory protection: Respirators: - Wear a disposable mask only once

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ES2: Distribution and Formulation, sodium thiocyanate

1 Distribution and Formulation, sodium thiocyanate (formulated product, low dustiness)

ES2: Industrial Distribution - Formula Sodium thiocyanate solid and in an a	
Section 1	Exposure Scenario Title
Title	Distribution and Formulation of NaSCN (low dustiness)
Use Descriptor	Sector of Use: Industrial (SU3, SU8, SU9, SU10)
	Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b,
	PROC9, PROC10, PROC14, PROC15; PROC19
	Environmental Release Categories: ERC2
Processes, tasks, activities covered	Formulation, packing and re-packing of the substance (including drums and small packs) and
	his mixtures in batch or continuous operations, including storage, material transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling,
	maintenance and laboratory activities. Loading (including marine vessel/barge, rail/road car
	and IBC loading) including its distribution.
GES exposure criteria	Worker
6.25 6.1p35a.5 6.1t5.1ta	DNEL (inhalation): 3.00 mg/m ³
	DNEL (skin): 1.68 mg/kg bw/day
	Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
	Environmental PNECs (SCN- equivalent)
	PNEC aqua (freshwater): 0.095 mg/L
	PNEC aqua (marine water): 0.0095 mg/L
	PNEC aqua (intermittent release): 0.0272 mg/L
	PNEC sediment (freshwater): 0.543 mg/kg sediment dw
	PNEC sediment (marine water): 0.0543 mg/kg sediment dw
	PNEC soil: 6.336 mg/kg soil dw
	PNEC stp: 30 mg/L
	PNEC oral: 1.667 mg/kg food
	Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio
	accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	
Physical form of product	Solid, low dustiness [OC1];
	Solid, vapor pressure: < 0.01 Pa
	Aqueous solution, vapor pressure of substance < 0.01 Pa (completely dissociated)
	Exposure only by aerosols
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13].
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	Not applicable

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Other Operational Conditions affecting	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure
worker exposure	operatives are trained to minimize exposures [EI119].
	Assumes use at not > 20°C above ambient [G15];
	Indoor [OC8]
Contributing Scenarios	Risk Management Measures
· · · · ·	ubstance: Use suitable eye protection [PPE26].
Avoid skin contact.	,
PROC1:	
General exposures (closed systems)	No specific measures identified [EI18].
[CS15].	
M	
Material transfers [CS3]. Mixing	Recommendation:
operations (closed systems) [CS29].	Ensure the system is closed; Clear transfer lines prior to de-coupling [E39]; Drain down and
Process sampling [CS2] (closed	flush system prior to equipment break-in or maintenance [E55].
systems) [CS107]	
PROC2:	
General exposures (closed systems)	No specific measures identified [EI18].
[CS15]; Continuous process [CS54].	
Matarial transfers [CS2]: Mixing	Recommendation:
Material transfers [CS3]; Mixing	
operations (closed systems) [CS29];	Ensure the system is closed.
Process sampling [CS2] (open	Clear transfer lines prior to de-coupling [E39]. Clear spills immediately [C&H13].
systems) [CS108].	
PROC3:	No analifa managana idantifa di [F]401
General exposures (closed systems)	No specific measures identified [EI18].
[CS15]; Use in contained batch	
processes [CS37];	
Material transfers [CS3]; Mixing	Recommendation:
operations (closed systems) [CS29].	Ensure the system is closed; Drain down and flush system prior to equipment break-in or
Process sampling [CS2] (open	maintenance [E55]. Clear spills immediately [C&H13].
systems) [CS108].	
PROC4:	
General exposures [CS1]; Batch	>5%: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
process [CS55] (open systems)	training [PPE16].
[CS108]	talling [1 1 2 10].
[22.00]	Recommendation:
	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC5:	The state of the s
General exposures [CS1];	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
Mixing operations (open systems)	[PPE17].
[CS30]; Batch process [CS55];	
[], p [],	Recommendation:
	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean

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	equipment and the work area every day [C&H3].{Clear spills immediately [C&H13]
PROC8a:	
General exposures [CS1].	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
Non-dedicated facility [CS82]	[PPE17].
Material transfers [CS3];	
material transfers [Sees],	Recommendation:
	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53];
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
	equipment and the work area every day [Oxf13]. Clear spins infinediately [Oxf113].
PROC8b:	
General exposures [CS1].	>5%: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
Dedicated facility [CS81] Material	training [PPE16].
transfers [CS3];	
	Recommendation:
	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC9:	
General exposures [CS1].;	>5%: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
Dedicated facility [CS81]	training [PPE16].
Material transfers [CS3]; Drum and	
small package filling [CS6];	Recommendation:
3[],	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H]. Clear spills immediately [C&H13].
PROC10:	
Rolling, Brushing [CS51] (open	Limit the substance content in the product to 25% [OC18] and Wear chemically resistant
systems) [CS108]; Roller, spreader,	gloves (tested to EN374) in combination with specific employee training [PPE17]
flow application [CS98]; General	
exposures [CS1];	Recommendation
	Use long handled tools where possible [E50]; Clean equipment and the work area every day
Equipment cleaning and maintenance	[C&H3]; Clear spills immediately [C&H13]; Avoid splashing [C&H15].
[CS39].	
PROC14:	
General exposures (open systems)	> 5%: Wear suitable gloves tested to EN374 [PPE15].
[CS16];	
Production or preparation or articles by	Recommendation:
tabletting, compression, extrusion or	Drain down and flush system prior to equipment break-in or maintenance [E55]; Clear spills
pelletisation [CS100].	immediately [C&H13]; Clean equipment and the work area every day [C&H3].
PROC15:	2. Compared the first of the control of of th
Laboratory activities [CS36];	No specific measures identified [EI18].
Small scale [CS61]. Manual [CS34].	
PROC 19:	
Manual [CS34]; Mixing operations	Limit the substance content in the product to 5% [OC17] and
(open systems) [CS30].	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].

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	Decomposition
	Recommendation:
Section 2.2	Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3]. Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Continuous release. [FD2] Emission Days (days/year): 300 [FD4].
Other Operational Conditions of use affecting environmental exposure	Product applied in aqueous process solution with negligible volatilization [OOC23]. Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2]; Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Spent process fluid discharged to wastewater. [OOC19]
Organization measures to prevent/limit release from site	Not applicable
Conditions and measures related to municipal sewage treatment plant	Not applicable
Conditions and measures related to external treatment of waste for disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3]
Conditions and measures related to external recovery of waste	Not applicable
Other environmental control measures additional to above	Not applicable
Section 3	Exposure Estimation
3.1. Health	
·	o exceed the applicable exposure limits (given in section 8 of the eSDS when the operational es given in section 2 are implemented [G29]
3.2. Environment	s given in section 2 are implemented [a25]
3.2. Environment	
	Predicted exposures are not expected to exceed the applicable exposure limits when the
	operational conditions/risk management measures given in section 2 are implemented [G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	
The ECETOC TRA tool has been used	to estimate workplace exposures unless otherwise indicated [G21] version 2.0
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise indicated.
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
Control of Worker Exposure	<u>1</u>
Cleaning [CS47]	Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
Emptying bags (solid)	In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling

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Use of PPE	Skin protection:
	Gloves take attention to the breakthrough time of NaSCN. Train the employees how to put on
	and off the gloves, and how to use gloves in a proper way.
	Respiratory protection:
	Respirators: - Wear a disposable mask only once
	- Clean the non-disposable masks after every use and storage in a clean box and
	area.
	Preferable to wear respirators ≤ 2 hours a day.

2 Distribution and Formulation, sodium thiocyanate (formulated product: medium dustiness)

ES2: Industrial Distribution- Formulation Sodium thiocyanate solid (formulated product: medium dustiness) CAS: 540-72-7	
Section 1	Exposure scenario Title
Title	Distribution and Formulation of solid NaSCN (medium dustiness).
Use Descriptor	Sector of Use: Industrial (SU3, SU8, SU9, SU10)
	Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC19.
	Environmental Release Categories: ERC2
Processes, tasks, activities covered	Covers the use in all kinds of applications of non spraying formulations including materia receipt, storage, preparation and transfer, application by roller and brush, wiping, dip, equipment cleaning, maintenance and laboratory activities.
GES exposure criteria	Worker DNEL (inhalation): 3.00 mg/m³ DNEL (skin): 1.68 mg/kg bw/day Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic Environmental PNECs (SCN- equivalent) PNEC aqua (freshwater): 0.095 mg/L PNEC aqua (marine water): 0.0095 mg/L PNEC aqua (intermittent release): 0.0272 mg/L PNEC sediment (freshwater): 0.543 mg/kg sediment dw PNEC sediment (marine water): 0.0543 mg/kg sediment dw PNEC soil: 6.336 mg/kg soil dw PNEC stp: 30 mg/L PNEC oral: 1.667 mg/kg food Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	
Physical form of product	Solid, medium dustiness [OC2].
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13]
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13]
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]

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Human factors not influenced by risk management	Not applicable
Other Operational Conditions affecting	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure
worker exposure	operatives are trained to minimize exposures [EI119].
	Assumes use at not > 20°C above ambient [G15];
	Assumes activities are at ambient temperature (unless stated differently) [G17].
	Indoor [OC8].
Contributing Scenarios	Risk Management Measures
Due to eye irritating properties of the sub	stance: Use suitable eye protection [PPE26].
Avoid skin contact.	
PROC1:	
General exposures (closed systems)	
[CS15].	No specific measures identified [EI18].
Material transfers [CS3]. Mixing	
operations (closed systems) [CS29].	
Process sampling [CS2] (closed	Recommendation:
systems) [CS107]	Ensure the system is close. Clear transfer lines prior to de-coupling [E39].
PROC2:	
General exposures (closed systems) [CS15];	>25%: Wear suitable gloves tested to EN374 [PPE15].
Material transfers [CS3]; Mixing	Recommendation:
operations (closed systems) [CS29];	Ensure the system is close. Clear transfer lines prior to de-coupling [E39]. Clear spills
Process sampling [CS2] (open systems)	immediately [C&H13].
[CS108].	
PROC3:	
General exposures (closed systems)	No specific measures identified [EI18].
[CS15]; Use in contained batch	
processes [CS37];	
Material transfers [CS3]; Mixing	Recommendation:
operations (closed systems) [CS29].	Ensure the system is closed. Drain down and flush system prior to equipment break-in or
Process sampling [CS2] (open systems)	maintenance [E55]. Clear spills immediately [C&H13].
[CS108].	
PROC4:	
General exposures [CS1]; Batch	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
process [CS55] (open systems) [CS108]	training [PPE16]. Plus:
	E OES/ . Avoid covering out apprehim for more than 4 hours [CO40]
	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
	> 25 %: Ensure material transfers are under containment or extract ventilation [E66] or
	Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency ≥ 80%).
	Recommendation:
	Use bulk or semi-bulk handling systems [E43]. Discharge sacks via suitable vented charge
	chute [E44].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean

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	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC5:	
General exposures [CS1]; Mixing operations (open systems)	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. Plus:
[CS30]; Batch process [CS55];	
	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
	> 25 %: Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency ≥ 80%).
	Recommendation:
	Use bulk or semi-bulk handling systems [E43]. Discharge sacks via suitable vented charge chute [E44].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC8a:	
General exposures [CS1]. Non-dedicated facility [CS82] Material transfers [CS3];	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. Plus:
	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
	> 25 %: Ensure material transfers are under containment or extract ventilation [E66] or
	Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency ≥ 80%).
	Recommendation:
	Use bulk or semi-bulk handling systems [E43]. Discharge sacks via suitable vented charge
	chute [E44].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC8b:	equipment and the work area every day [Odrio]. Oreal spins infinediately [Odriio].
General exposures [CS1]. Dedicated facility [CS81] Material	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. Plus:
transfers [CS3];	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
	> 25 %: Ensure material transfers are under containment or extract ventilation [E66] or
	Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency ≥ 80%).
	Recommendation:
	Use bulk or semi-bulk handling systems [E43]. Discharge sacks via suitable vented charge chute [E44].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC9:	
General exposures [CS1].;	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
Dedicated facility [CS81] Material transfers [CS3]; Drum and	training [PPE16]. Plus:
small package filling [CS6];	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
	5 2275. Amond dailying dat operation for more than 1 hours [CO12]

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	> 25 %: Ensure material transfers are under containment or extract ventilation [E66] or
	Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency ≥ 80%).
	Recommendation:
	Use bulk or semi-bulk handling systems [E43]. Discharge sacks via suitable vented charge
	chute [E44].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC14:	
General exposures (open systems) [CS16];	> 5%: Wear suitable gloves tested to EN374 [PPE15].
Production or preparation or articles by	Recommendation:
tabletting, compression, extrusion or pelletisation [CS100].	Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC15:	
Laboratory activities [CS36];	No specific measures identified [EI18].
Small scale [CS61]. Manual [CS34]. PROC 19:	
Manual [CS34]; Mixing operations (open	Limit the substance content in the product to 5% [OC17];
systems) [CS30].	Earlie the substance content in the product to 670 [5617],
, , , , ,	Avoid carrying out operation for more than 1 hour [OC11];
	Wear chemically resistant gloves (tested to EN374) in combination with specific activity
	training [PPE17].
	Recommendation:
	Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Continuous release. [FD2] Emission Days (days/year): 300 [FD4].
Other Operational Conditions of use	Product applied in aqueous process solution with negligible volatilization [OOC23].
affecting environmental exposure	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2];
	Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and	Spent process fluid discharged to wastewater. [OOC19]
measures to reduce or limit discharges,	
air emissions and releases to soil	
Organization measures to prevent/limit	Not applicable
release from site Conditions and measures related to	Not applicable
municipal sewage treatment plant	ινοι αρριιοαρίο
Conditions and measures related to	External treatment and disposal of waste should comply with applicable local and/or national
external treatment of waste for disposal	regulations [ETW3]
Conditions and measures related to	Not applicable
1	
external recovery of waste	
Other environmental control measures	Not applicable

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Section 3	Exposure Estimation
3.1. Health	•
Predicted exposures are not	expected to exceed the applicable exposure limits (given in section 8 of the eSDS when the operational
conditions/risk of manageme	nt measures given in section 2 are implemented [G29]
3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the
	operational conditions/risk management measures given in section 2 are implemented [G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	
The ECETOC TRA tool has	been used to estimate workplace exposures unless otherwise indicated [G21] version 2.0
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise
	indicated.
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
Note: The measures report	
•	ed in this section have not been taken into account in the exposure estimates related to the They are not subject to obligation laid down in Article 37 (4) of REACH
exposure scenario above.	They are not subject to obligation laid down in Article 37 (4) of REACH.
exposure scenario above. Control of Worker Exposur	They are not subject to obligation laid down in Article 37 (4) of REACH.
exposure scenario above.	They are not subject to obligation laid down in Article 37 (4) of REACH.
exposure scenario above. Control of Worker Exposur	They are not subject to obligation laid down in Article 37 (4) of REACH. Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in
exposure scenario above. Control of Worker Exposur Cleaning [CS47]	They are not subject to obligation laid down in Article 37 (4) of REACH. Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
exposure scenario above. Control of Worker Exposur Cleaning [CS47]	They are not subject to obligation laid down in Article 37 (4) of REACH. Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] Skin protection:
exposure scenario above. Control of Worker Exposur Cleaning [CS47]	They are not subject to obligation laid down in Article 37 (4) of REACH. Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] Skin protection: Gloves take attention to the breakthrough time of NaSCN Train the employees how to
exposure scenario above. Control of Worker Exposur Cleaning [CS47]	They are not subject to obligation laid down in Article 37 (4) of REACH. Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] Skin protection: Gloves take attention to the breakthrough time of NaSCN Train the employees how to correctly put on and off the gloves, and how to use gloves in a proper way.
exposure scenario above. Control of Worker Exposur Cleaning [CS47]	They are not subject to obligation laid down in Article 37 (4) of REACH. Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] Skin protection: Gloves take attention to the breakthrough time of NaSCN Train the employees how to correctly put on and off the gloves, and how to use gloves in a proper way. Respiratory protection:
exposure scenario above. Control of Worker Exposur Cleaning [CS47]	They are not subject to obligation laid down in Article 37 (4) of REACH. Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26] Skin protection: Gloves take attention to the breakthrough time of NaSCN Train the employees how to correctly put on and off the gloves, and how to use gloves in a proper way. Respiratory protection: Respirators: - Wear a disposable mask only once

3. Distribution and Formulation, sodium thiocyanate (formulated product: high dustiness)

Section 1	Exposure scenario Title
Title	Distribution and Formulation of solid NaSCN (high dustiness).
Use Descriptor	Sector of Use: Industrial (SU3, SU8, SU9, SU10)
	Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b,
	PROC9, PROC14, PROC15, PROC19;
	Environmental Release Categories: ERC2
Processes, tasks, activities covered	Covers the use in all kinds of applications of non spraying formulations including material
	receipt, storage, preparation and transfer, application by roller and brush, wiping, dip,
	equipment cleaning, maintenance and laboratory activities.
GES exposure criteria	Worker
	DNEL (inhalation): 3.00 mg/m ³
	DNEL (skin): 1.68 mg/kg bw/day

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Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic **Environmental PNECs (SCN- equivalent)** PNEC agua (freshwater): 0.095 mg/L PNEC agua (marine water): 0.0095 mg/L PNEC agua (intermittent release): 0.0272 mg/L PNEC sediment (freshwater): 0.543 mg/kg sediment dw PNEC sediment (marine water): 0.0543 mg/kg sediment dw PNEC soil: 6.336 mg/kg soil dw PNEC stp: 30 mg/L PNEC oral: 1.667 mg/kg food Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio accumulating Section 2 Operational conditions and risk management measures Section 2.1 Control of worker exposure **Product characteristics** Physical form of product Solid, high dustiness [OC6]. Covers percentage substance in the product up to 25 % (unless stated differently) [G12]. Concentration of substance in product Amounts used Varies between milliliters (sampling) and cubic meters (material transfers) [OC13]. Frequency and duration of use Covers daily exposures up to 8 hours (unless stated differently) [G2] Human factors not influenced by risk Not applicable management Other Operational Conditions affecting Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure operatives are trained to minimize exposures [EI119]. worker exposure Assumes use at not > 20°C above ambient [G15]; Assumes activities are at ambient temperature (unless stated differently) [G17]. Indoor [OC8]. **Contributing Scenarios Risk Management Measures** Due to eye irritating properties of the substance: Use suitable eye protection [PPE26]. Avoid skin contact Covers percentage substance in the product up to 25 % (unless stated differently) [G12]. PROC1: General exposures (closed systems) up to 100%: No specific measures identified [El18]. [CS15]. Material transfers [CS3]. Mixing operations (closed systems) [CS29]. Recommendation: Process sampling [CS2] (closed Ensure the system is closed. Drain down and flush system prior to equipment break-in or systems) [CS107] maintenance [E55]. PROC2: General exposures (closed systems) No specific measures identified [EI18]. [CS15]; Material transfers [CS3]; Mixing Recommendation: operations (closed systems) [CS29]; Handle substance within a closed system [E47]. Drain down and flush system prior to Process sampling [CS2] (open systems) equipment break-in or maintenance [E55]. Clear spills immediately [C&H13].

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[CS108].	
PROC3:	A 4000/ No an a file was a super identified [F]40]
General exposures (closed systems) [CS15]; Use in contained batch	up to 100%: No specific measures identified [EI18].
processes [CS37];	
Material transfers [CS3]; Mixing	Recommendation:
operations (closed systems) [CS29].	Ensure the system is closed; Drain down and flush system prior to equipment break-in or
Process sampling [CS2] (open systems) [CS108].	maintenance [E55]. Clear spills immediately [C&H13].
PROC4:	
General exposures [CS1]; Batch	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
process [CS55] (open systems) [CS108]	training [PPE16]. Plus:
	5-25%: Ensure material transfers are under containment or extract ventilation [E66] or Provide
	extract ventilation to material transfer points and other openings [E82]. (Efficiency: ≥
	90%) Or Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]
	(Protection Factor ≥ 10).
	<5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid
	carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for
	more than 1 hour [OC11]
	Recommendation:
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills
	immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC5: General exposures [CS1];	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
Mixing operations (open systems)	[PPE17].
[CS30]; Batch process [CS55];	
	5-25%: Ensure material transfers are under containment or extract ventilation [E66] or Provide
	extract ventilation to material transfer points and other openings [E82]. (Efficiency: ≥
	90%) Or
	Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10).
	<5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid
	carrying out operation for more than 4 hours [OC12]
	Possemmendation:
	Recommendation: Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills
	immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC8a:	
General exposures [CS1].	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
Non-dedicated facility [CS82]	[PPE17]. Plus:
Material transfers [CS3];	

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	5-25%: Avoid carrying out operation for more than 4 hours [OC12], Plus Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82] (Efficiency: ≥ 90%) Or Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10). <5%: Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82] (Efficiency: ≥ 90%) Or Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for more than 1 hour [OC11
	Recommendation: Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC8b: General exposures [CS1]. Dedicated facility [CS81] Material	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. Plus:
transfers [CS3];	5-25%: Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency: ≥ 90%) Or Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10). <5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for more than 1 hour [OC11]
	Recommendation: Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]; Clear spills immediately [C&H13].
PROC9: General exposures [CS1].; Dedicated facility [CS81] Material transfers [CS3]; Drum and small	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. Plus:
package filling [CS6];	5-25%: Provide extract ventilation to material transfer points and other openings [E82]; Ensure material transfers are under containment or extract ventilation [E66] (Efficiency: ≥ 90%). Or Wear a disposable dust mask (FFP1, Assigned Protection Factor: 4) or better and Avoid carrying out operation for more than 4 hour [OC12]. < 5%: Avoid carrying out operation for more than 4 hour [OC12]
	Recommendation: Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]; Clear spills immediately [C&H13].
PROC14: General exposures (open systems) [CS16]; Production or preparation or articles by	Wear suitable gloves tested to EN374 [PPE15]. Plus:
tabletting, compression, extrusion or pelletisation [CS100].	5 - 25%: Provide extract ventilation to material transfer points and other openings [E82]; Ensure material transfers are under containment or extract ventilation [E66]. (Efficiency: ≥ 90%) Or

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ı	
	Avoid carrying out operation for more than 1 hours [OC11] Or
	Avoid carrying out operation for more than 4 hours [OC12] and Wear a disposable
	dust mask (FFP1, Assigned Protection Factor: 4) or better
	Recommendation:
	Clear spills immediately [C&H13]; Clean equipment and the work area every day [C&H3].
PROC15:	
Laboratory activities [CS36];	Handle in a fume cupboard or under extract ventilation [E83]. (Efficiency: ≥ 80%)
Small scale [CS61]. Manual [CS34].	
PROC 19:	
Manual [CS34]; Mixing operations (open	Limit the substance content in the product to 5% [OC17].
systems) [CS30].	Was about 10 was intent along the stand to ENOTA) in parable stine with an airing stine and intention
	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. Plus:
	Avoid carrying out operation for more than 4 hours [OC11] and Wear a respirator conforming to
	EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10).
	Recommendation:
	Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Continuous release. [FD2] Emission Days (days/year): 300 [FD4].
Other Operational Conditions of use	Product applied in aqueous process solution with negligible volatilization [OOC23].
affecting environmental exposure	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2];
	Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and	Spent process fluid discharged to wastewater. [OOC19]
measures to reduce or limit discharges,	
air emissions and releases to soil	
Organization measures to prevent/limit	Not applicable
release from site	
Conditions and measures related to	Not applicable
municipal sewage treatment plant	
Conditions and measures related to	External treatment and disposal of waste should comply with applicable local and/or national
external treatment of waste for disposal	regulations [ETW3]
Conditions and measures related to	Not applicable
external recovery of waste	
Other environmental control measures	Not applicable
additional to above	
Section 3	Exposure Estimation
3.1. Health	
Predicted exposures are not expected to	exceed the applicable exposure limits (given in section 8 of the eSDS when the operational
conditions/risk of management measures	· · · · · · · · · · · · · · · · · · ·
3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the
	operational conditions/risk management measures given in section 2 are implemented [G29]
Section 4	Guidance to check compliance with the Exposure Scenario

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4.1. Health	
The ECETOC TRA tool has b	een used to estimate workplace exposures unless otherwise indicated [G21] version 2.0
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise
	indicated.
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
Note: The measures reporte	ed in this section have not been taken into account in the exposure estimates related to the exposure
scenario above. They are no	ot subject to obligation laid down in Article 37 (4) of REACH.
Control of Worker Exposure	
Cleaning [CS47]	Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in
	combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
Use of PPE	Skin protection:
	Gloves take attention to the breakthrough time of NaSCN. Train the employees how to put on
	and off the gloves and how to use gloves in a proper way.
	Respiratory protection:
	Respirators: - Wear a disposable mask only once
	- Clean the non-disposable masks after every use and storage in a clean box
	and area.
	Preferable to wear respirators ≤ 2 hours a day.

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ES3: Use as an intermediate or in synthesis (100% solid and 50% aqueous solution)

Describtion of ES 3

Section 1	Exposure Scenario Title
Title	Use of NaSCN as an intermediate or as a process chemical or extraction agent in
	synthesis (low dustiness)
Use Descriptor	Sector of Use: Industrial (SU 3, SU8, SU9)
	Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b,
	PROC10, PROC15;
	Environmental Release Categories: ERC 4, ERC6a, ERC8a
Processes, tasks, activities covered	Use of NASCN as an intermediate or process chemical or extraction agent. Includes
1 Tocesses, tasks, activities covered	recycling/recovery, material transfers, storage, maintenance and (un)loading (including
	road car and bulk container), sampling and associated laboratory activities.
	1 1 1
GES exposure criteria	Worker
	DNEL (inhalation): 3.00 mg/m ³
	DNEL (skin): 1.68 mg/kg bw/day
	Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
	Environmental PNECs (SCN- equivalent)
	PNEC aqua (freshwater): 0.095 mg/L
	PNEC aqua (marine water): 0.0095 mg/L
	PNEC aqua (intermittent release): 0.0272 mg/L
	PNEC sediment (freshwater): 0.543 mg/kg sediment dw
	PNEC sediment (marine water): 0.0543 mg/kg sediment dw
	PNEC soil: 6.336 mg/kg soil dw
	PNEC stp: 30 mg/L
	PNEC oral: 1.667 mg/kg food
	Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio
	accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Section 2.1	Control of worker exposure
Product characteristics	
Physical form of product	Solid, low dustiness [OC1];
	Solid, vapor pressure: <<0.01 Pa
	Aqueous solution, vapor pressure of substance: << 0.01 Pa (completely dissociated)
	Exposure only by aerosols
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently)
- P	[G13].
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13].
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk	Not applicable
management	

Product name: sodium thiocyanate

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ES3: Industrial use of Sodium thiocyanate as an intermediate or in synthesis 100% solid and 50% in an aqueous solution CAS: 540-72-7		
Other Operational Conditions affecting worker	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure	
exposure	operatives are trained to minimize exposures [EI119].	
	Assumes use at not > 20°C above ambient [G15];	
	Indoor [OC8] and Outdoor [OC9]. Solid and solution	
Contributing Scenarios	Risk Management Measures	
Due to eye irritating properties of the substance Avoid skin contact.	e: Use suitable eye protection [PPE26].	
PROC 1 Continuous process [CS54]. Batch process [CS55]. General exposures (closed systems) [CS15].	No specific measures identified [El18].	
Process sampling [CS2]. Material transfers	Recommendation:	
[CS3].		
[033].	Ensure the system is closed; Clear transfer lines prior to de-coupling [E39]; Drain down and flush system prior to equipment break-in or maintenance [E55].	
PROC 2	and must system prior to equipment break-in or maintenance [L55].	
Continuous process [CS54]. General exposures [CS1].	No specific measures identified [EI18].	
Material transfers [CS3] (closed systems)	Recommendation:	
[CS107]. Process sampling [CS2] (open	Ensure the system is closed.	
systems) [CS108];	Clear transfer lines prior to de-coupling [E39]. Clear spills immediately [C&H13].	
PROC 3		
Use in contained batch processes [CS37];	No specific measures identified [EI18].	
General exposures (closed systems) [CS15].	Recommendation:	
Material transfers [CS3].	Ensure the system is closed; Drain down and flush system prior to equipment break-in or	
	maintenance [E55]. Clear spills immediately [C&H13].	
PROC 4		
Batch process [CS55]. General exposures (open systems) [CS16].	>5%: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].	
Material transfers [CS3]. Drum/batch	Recommendation:	
transfers [CS8]. Bulk transfers [CS14].	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53].	
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean	
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].	
PROC 8a		
Non-dedicated facility [CS82]; General	Wear chemically resistant gloves (tested to EN374) in combination with specific activity	
exposures (open systems) [CS16].	training [PPE17].	
Material transfers [CS3].	Recommendation:	
	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53].	
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean	
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13]	
PROC 8b		
Dedicated facility [CS81]; General exposures	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee	

Product name: sodium thiocyanate

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ES3: Industrial use of Sodium thiocyanate a	as an intermediate or in synthesis 100% solid and 50% in an aqueous solution
CAS: 540-72-7	
(open systems) [CS16]. Material transfers [CS3].	training [PPE16].
	Recommendation:
	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53];
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC10 Rolling, Brushing [CS51] (open	
systems) [CS108]; Roller, spreader, flow	Limit the substance content in the product to 25% [OC17] and Wear chemically resistant
application [CS98]; General exposures [CS1];	gloves (tested to EN374) in combination with specific employee training [PPE17].
Equipment cleaning and maintenance [CS39].	Recommendation
	Use long handled tools where possible [E50]; Clean equipment and the work area every
	day [C&H3]; Clear spills immediately [C&H13]; Avoid splashing [C&H15].
PROC 15	
Laboratory activities [CS36]. Small scale	No specific measures identified [EI18].
[CS61]. Manual [CS34].	
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Continuous release. [FD2] Emission Days (days/year): 300 [FD4].
Other Operational Conditions of use affecting	Product applied in aqueous process solution with negligible volatilization [OOC23].
environmental exposure	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2];
	Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and measures to	Spent process fluid discharged to wastewater. [OOC19]
reduce or limit discharges, air emissions and	
releases to soil	
Organization measures to prevent/limit	Not applicable
release from site	
Conditions and measures related to municipal	Not applicable
sewage treatment plant	
Conditions and measures related to external	External treatment and disposal of waste should comply with applicable local and/or
treatment of waste for disposal	national regulations [ETW3]
Conditions and measures related to external	Not applicable
recovery of waste	
Other environmental control measures	Not applicable
additional to above	
Section 3	Exposure Estimation
3.1. Health.	ı ·
	ed the applicable exposure limits (given in section 8 of the SDS when the operational
conditions/risk management measures given in	• • • • • • • • • • • • • • • • • • • •
3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the
	operational conditions/risk management measures given in section 2 are implemented
	[G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	

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ES3: Industrial use of Sodium thiocyanate as an intermediate or in synthesis 100% solid and 50% in an aqueous solution			
CAS: 540-72-7			
The ECETOC TRA tool has bee	n used to estimate workplace exposure unless otherwise indicated [G21] version2.0		
4.2. Environment			
	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise indicated.		
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment		
Control of Worker Exposure			
Cleaning [CS47]	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]		
Emptying bags	In case the solid substance is lumpy or is one big lump crush the substance carefully in a sealed/closed (plastic) bag. Avoid any breakage of the bag during handling.		
Use of PPE	Skin protection: Gloves take attention to the breakthrough time of NaSCN Train the employees how to put on and off the gloves and how to use gloves in a proper way.		
	Respiratory protection: Respirators: - Wear a disposable mask only once - Clean the non-disposable masks after every use and storage in a clean box and area. Preferable to wear respirators ≤ 2 hours a day.		

Product name: sodium thiocyanate
Version #: 2.0 Revision date: 27-09-2013. Issue date: 27-09-2013.



ES4: Use in spraying formulations (aqueous solution)

1 Describtion of ES4

Section 1	Exposure scenario Title
Title	Industrial and professional use of NaSCN in a spraying aqueous formulation (low pressure spraying).
Use Descriptor	Sector of Use Industrial and Professional: SU3, SU22;
	Process Categories: PROC1, PROC2, PROC3, PROC5, PROC7, PROC8a, PROC8b, PROC10, PROC11, PROC19;
	Environmental Release Categories: ERC4, ERC5, ERC8a
Processes, tasks, activities covered	Covers the use of formulated spraying product including weighing, transfer operations and automated and manual spraying applications.
GES exposure criteria	Worker DNEL (inhalation): 3.00 mg/m³ DNEL (skin): 1.68 mg/kg bw/day Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
Section 2	Environmental PNECs (SCN- equivalent) PNEC aqua (freshwater): 0.095 mg/L PNEC aqua (marine water): 0.0095 mg/L PNEC aqua (intermittent release): 0.0272 mg/L PNEC sediment (freshwater): 0.543 mg/kg sediment dw PNEC sediment (marine water): 0.0543 mg/kg sediment dw PNEC soil: 6.336 mg/kg soil dw PNEC stp: 30 mg/L PNEC oral: 1.667 mg/kg food Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio accumulating Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	
Physical form of product	Solid, low dustiness [OC1]; Solid, vapor pressure:< < 0.01 Pa Aqueous solution, vapor pressure of substance: << 0.01 Pa (completely dissociated) Exposure only by aerosols
Concentration of substance in	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
product	
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13].
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	Not applicable
Other Operational Conditions affecting worker exposure	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure operatives are trained to minimize exposures [EI119].

Product name: sodium thiocyanate
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	Drogas y Productos Químicos
	Assumes use at not > 20°C above ambient [G15];
	Assumes activities are at ambient temperature (unless stated differently) [G17]. Indoor [OC8].
Contributing Scenarios	Risk Management Measures
Due to eye irritating properties of	of the substance: Use suitable eye protection [PPE26].
Avoid skin contact.	
PROC1 (industrial)	
General exposures (closed	Ensure the system is closed .
systems) [CS15];	No specific measures identified [EI18].
e.g.:	
Material transfers [CS3]	
(closed systems) [CS107];	Recommendation:
Spraying [CS10] (closed	; Clear transfer lines prior to de-coupling [E39]; Drain down and flush system prior to equipment
systems) [CS107];	break-in or maintenance [E55].
E.g: Spraying by robots	
PROC2 (industrial)	
General exposures [CS1].	Ensure the system is closed
Continuous process [CS54].	No specific measures identified [EI18].
Automated process with (semi)	
closed systems [CS93];	
Spraying [CS10] (closed	
systems) [CS107];	Recommendation:
E.g: Spraying by robots	
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear transfer lines
	prior to de-coupling [E39]; Clear spills immediately [C&H13].
PROC3 (industrial)	
General exposures (closed	Ensure the system is closed;
systems) [CS15].	No specific measures identified [EI18].
Use in contained batch	
processes [CS37].	
Spraying [CS10] (closed	Recommendation:
systems) [CS107];	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills
E.g: Spraying by robots	immediately [C&H13].
PROC5:	
General exposures (open	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
systems) [CS16]. Mixing	[PPE17].
operations (open systems)	
[CS30]. Batch process [CS55].	Recommendation:
· · ·	Use drum pumps [E53].
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and
	the work area every day [C&H3].Clear spills immediately [C&H13]
PROC7 (industrial low	
pressure spraying):	Limit the substance content in the product to 25% [OC18] And Wear chemically resistant gloves
General exposures (open	(tested to EN374) in combination with specific activity training [PPE17]
systems) [CS16].	Plus:

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l	biogas y rioducios culmicos
Spraying [CS10]	5 OFO(x Augid assertion and appending for many thought a form to the form of t
	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
	Recommendation:
	Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13]
PROC8a:	Clean equipment and the work area every day [Caris]. Clear spins infinediately [Carifs]
General exposures (open	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
systems) [CS16].	[PPE17].
Non-dedicated facility [CS82];	[FFE17].
Non-dedicated facility [C362],	Recommendation:
Material transfers [CS3];	Use drum pumps [E53];
wateriai transiers [000],	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and
	the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC8b:	the work area every day [Oxfro]. Oreal spins infinediately [Oxfro].
General exposures (open	> 5%: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
	[PPE17].
systems) [CS16]; Dedicated	[FFE17].
facility [CS81].	Recommendation:
Material transfers [CS3];	Use drum pumps [E53].
Material transfers [000],	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and
	the work area every day [C&H3]. Clear spills immediately [C&H13].
	the work area every day [Oxfro]. Clear spins infinediately [Oxfro].
PROC10	
Rolling, Brushing [CS51] (open	Limit the substance content in the product to 25% [OC18] and Wear chemically resistant gloves (tested
systems) [CS108]; Roller,	to EN374) in combination with specific activity training [PPE17].
spreader, flow application	
[CS98]; General exposures	Recommendation:
[CS1];	Use long handled tools where possible [E50]; Clean equipment and the work area every day [C&H3];
	Clear spills immediately [C&H13]; Avoid splashing [C&H15].
Equipment cleaning and	
maintenance [CS39].	
PROC11 (professional low	
pressure spraying)	Limit the substance content in the product to 25% [OC18] And
General exposures (open	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
systems) [CS16].	[PPE17].
Spraying [CS10]	Plus:
	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
	Recommendation:
	Clean equipment and the work area every day [C&H3]; Clear spills immediately [C&H13];
PROC 19:	
Manual [CS34];	Limit the substance content in the product to 5% [OC17] And
Mixing operations (open	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training
systems) [CS30].	[PPE17].
	Recommendation:
	Stay upwind/keep distance from source [El22].

Product name: sodium thiocyanate

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	Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
	Cical spins ininicalately [Carrio]. Cical equipment and the work area every day [Carrio].
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Emission Days (days/year): 20 [FD4].
Other Operational Conditions	Product applied in aqueous process solution with negligible volatilization [OOC23].
of use affecting environmental	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2];
exposure	Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and	Not applicable
measures to reduce or limit	
discharges, air emissions and	
releases to soil	
Organization measures to	Not applicable
prevent/limit release from site	The applicable
Conditions and measures	Not applicable
	Not applicable
related to municipal sewage	
treatment plant	
Conditions and measures	External treatment and disposal of waste should comply with applicable local and/or national
related to external treatment of	regulations [ETW3]
waste for disposal	
Conditions and measures	Not applicable
related to external recovery of	
waste	
Other environmental control	Not applicable
measures additional to above	
Section 3	Exposure Estimation
3.1. Health	
·	pected to exceed the applicable exposure limits (given in section 8 of the eSDS when the operational neasures given in section 2 are implemented [G29]
3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the operational
	conditions/risk management measures given in section 2 are implemented [G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	
	n used to estimate workplace exposures unless otherwise indicated [G21] version 2.0;
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise indicated.
4.2. Environment	LOGES 2.1 has been used to estimate environmental exposure [EES] unless otherwise indicated.
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
Note: The measures reported i	in this section have not been taken into account in the exposure estimates related to the
•	y are not subject to obligation laid down in Article 37 (4) of REACH.
Control of Worker Exposure	· · · · · · · · · · · · · · · · · · ·
Cleaning [CS47]	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination
Oleaning [OO47]	with specific activity training [PPE17] and Use suitable eye protection [PPE26]

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Use of PPE	Skin protection:
	Hand: Gloves take attention to the breakthrough time of NaSCN
	Body: Wear a disposable coverall with a good level of liquid protection (e.g.: Tyvek). Preferable to wear the coverall ≤ 4 hours a day.
	Train the employees putting on and off gloves plus coveralls and how to use these PPE in a proper
	way.
	Respiratory protection:
	Respirators: - Wear a disposable mask only once
	- Clean the non-disposable masks after every use and storage in a clean box and
	area.
	Preferable to wear respirators ≤ 2 hours a day.

Product name: sodium thiocyanate

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ES5: Use in non spraying formulations

1 ES5: Use in non spraying formulations, -low dustiness

CAS: 540-72-7	
Section 1	Exposure scenario Title
Title	Industrial and professional use of NaSCN (low dustiness)
Use Descriptor	Sector of Use Industrial and Professional: SU3, SU22.
	Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13, PROC14, PROC19;
	Environmental Release Categories: ERC4, ERC5, ERC8a, ERC8b, ERC8c, ERC8d, ERC9
Processes, tasks, activities covered	Covers the use in all kinds of applications of non spraying formulations including material receipt, storage, preparation and transfer, application by roller and brush, wiping, dip, equipment cleaning, maintenance and laboratory activities.
GES exposure criteria	Worker DNEL (inhalation): 3.00 mg/m³ DNEL (skin): 1.68 mg/kg bw/day Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
	Environmental PNECs (SCN- equivalent) PNEC aqua (freshwater): 0.095 mg/L PNEC aqua (marine water): 0.0095 mg/L PNEC aqua (intermittent release): 0.0272 mg/L PNEC sediment (freshwater): 0.543 mg/kg sediment dw PNEC sediment (marine water): 0.0543 mg/kg sediment dw PNEC soil: 6.336 mg/kg soil dw PNEC stp: 30 mg/L PNEC oral: 1.667 mg/kg food Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	·
Physical form of product	Solid, low dustiness [OC1]; Solid, vapor pressure: <<0.01 Pa Aqueous solution, vapor pressure of substance << 0.01 Pa (completely dissociated) Exposure only by aerosols
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13].
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	Not applicable



Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure
operatives are trained to minimize exposures [EI119].
Assumes use at not > 20°C above ambient [G15];
Assumes activities are at ambient temperature (unless stated differently) [G17]. Indoor [OC8].
Risk Management Measures
bstance: Use suitable eye protection [PPE26].
No specific measures identified [EI18].
Recommendation:
Ensure the system is closed;
Clear transfer lines prior to de-coupling [E39]; Drain down and flush system prior to equipment
break-in or maintenance [E55].
No specific measures identified [EI18].
Recommendation:
Ensure the system is closed.
Clear transfer lines prior to de-coupling [E39]. Clear spills immediately [C&H13].
21
No specific measures identified [EI18].
Recommendation:
Ensure the system is closed;
Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills
immediately [C&H13].
> 5%: Wear chemically resistant gloves (tested to EN374) in combination with specific activity
training [PPE17].
B
Recommendation:
Recommendation: Use bulk or semi-bulk handling systems [F43]: Use drum numps [F53]
Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53]. Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean



BBOOS	
PROC5: General exposures (open systems) [CS16]. Batch process [CS55].	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
e.g.: Mixing operations [CS30]. Printing [CS108]; Roller, spreader, flow application [CS98]	Recommendation: Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53]. Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3].{Clear spills immediately [C&H13]
PROC8a:	
General exposures (open systems) [CS16]. Non-dedicated facility [CS82];	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
Material transfers [CS3];	Recommendation: Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53]; Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
DDOOR.	
PROC8b: General exposures (open systems) [CS16]; Dedicated facility [CS81].	> 5%: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
Material transfers [CS3];	Recommendation: Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53]. Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].
PROC10	
Rolling, Brushing [CS51] (open systems) [CS108]; Roller, spreader, flow application [CS98]; General exposures [CS1];	Limit the substance content in the product to 25% [OC18] and Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. **Recommendation:**
Equipment cleaning and maintenance [CS39].	Use long handled tools where possible [E50]; Clean equipment and the work area every day [C&H3]; Clear spills immediately [C&H13]; Avoid splashing [C&H15].
PROC 13	
General exposures (open systems) [CS16]; Dipping, immersion and pouring [CS4].	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
	Recommendation:
	Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC14: Production or preparation or articles by tabletting, compression, extrusion	> 5%: Wear suitable gloves tested to EN374 [PPE15].
or pelletisation [CS100]; General	Recommendation:
exposures (open systems) [CS16].	Drain down and flush system prior to equipment break-in or maintenance [E55].Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].



Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise indicated.
The ECETOC TRA tool has been used	to estimate workplace exposures unless otherwise indicated [G21] version 2.0;
4.1. Health	
Section 4	Guidance to check compliance with the Exposure Scenario
	operational conditions/risk management measures given in section 2 are implemented [G29]
3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the
·	es given in section 2 are implemented [G29]
	to exceed the applicable exposure limits (given in section 8 of the eSDS when the operational
Section 3 3.1. Health	Exposure Estimation
additional to above	Fun a curre Festimentian
Other environmental control measures	Not applicable
external recovery of waste	
Conditions and measures related to	Not applicable
disposal	
external treatment of waste for	regulations [ETW3]
Conditions and measures related to	External treatment and disposal of waste should comply with applicable local and/or national
municipal sewage treatment plant	
Conditions and measures related to	Not applicable
prevent/limit release from site	
Organization measures to	Not applicable
releases to soil	
discharges, air emissions and	
measures to reduce or limit	I NOT applicable
Technical onsite conditions and	Spent process fluid discharged to wastewater. [OOC19] Not applicable
affecting environmental exposure	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2];
Other Operational Conditions of use	Product applied in aqueous process solution with negligible volatilization [OOC23].
Frequency and duration of use	Emission Days (days/year): 100 [FD4].
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Section 2.2	Control of environmental exposure
	Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
	Stay upwind/keep distance from source [EI22].
	Recommendation:
[0000].	
[CS30].	training [PPE17].
Manual [CS34]; Mixing operations (open systems)	Limit the substance content in the product to 5% [OC17] And Wear chemically resistant gloves (tested to EN374) in combination with specific activity



Cleaning [CS47]	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
Use of PPE	Skin protection: Gloves take attention to the breakthrough time of NaSCN Train the employees putting on and off the gloves, and how to use gloves in a proper way. Respiratory protection: Respirators: - Wear a disposable mask only once - Clean the non-disposable masks after every use and storage in a clean box and area. Preferable to wear respirators ≤ 2 hours a day.

2 ES5: Use in non-spraying formulations, medium dustiness

Section 1	Exposure scenario Title
	Exposure sociatio Title
Title	Industrial and Professional end-use of solid NaSCN (high dustiness).
Use Descriptor	Sector of Use: Industrial (SU3, SU8, SU9, SU10)
	Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b,
	PROC13, PROC14, PROC19;
	Environmental Release Categories: ERC2
Processes, tasks, activities covered	Covers the use in all kinds of applications of non spraying formulations including material
	receipt, storage, preparation and transfer, application by roller and brush, wiping, dipping,
	mixing.
GES exposure criteria	Worker
	DNEL (inhalation): 3.00 mg/m ³
	DNEL (skin): 1.68 mg/kg bw/day
	Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
	Environmental PNECs (SCN- equivalent)
	PNEC aqua (freshwater): 0.095 mg/L
	PNEC aqua (marine water): 0.0095 mg/L
	PNEC aqua (intermittent release): 0.0272 mg/L
	PNEC sediment (freshwater): 0.543 mg/kg sediment dw
	PNEC sediment (marine water): 0.0543 mg/kg sediment dw
	PNEC soil: 6.336 mg/kg soil dw
	PNEC stp: 30 mg/L
	PNEC oral: 1.667 mg/kg food
	Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio
	accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	
Physical form of product	Solid, high dustiness [OC6].
Concentration of substance in product	Covers percentage substance in the product up to 25 % (unless stated differently) [G12].
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13].

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	Diogas y Frouncies Cultimos
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk	Not applicable
management	
Other Operational Conditions affecting	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure
worker exposure	operatives are trained to minimize exposures [EI119].
·	
	Assumes use at not > 20°C above ambient [G15];
	Assumes activities are at ambient temperature (unless stated differently) [G17].
	Indoor [OC8].
Contributing Scenarios	Risk Management Measures
Due to eye irritating properties of the su	bstance: Use suitable eye protection [PPE26].
Avoid skin contact	
Covers percentage substance in the	product up to 25 % (unless stated differently) [G12].
PROC1:	
General exposures (closed systems)	up to 100%: No specific measures identified [EI18].
[CS15].	
Material transfers [CS3]. Mixing	
operations (closed systems) [CS29].	Recommendation:
Process sampling [CS2] (closed	Ensure the system is closed. Drain down and flush system prior to equipment break-in or
systems) [CS107]	maintenance [E55].
PROC2:	
General exposures (closed systems)	Professional worker
[CS15];	5-25%: Avoid carrying out operation for more than 4 hours [OC12] And Wear suitable gloves
	tested to EN374 [PPE15]
Material transfers [CS3]; Mixing	
operations (closed systems) [CS29];	Recommendation:
Process sampling [CS2] (open	Handle substance within a closed system [E47]. Drain down and flush system prior to
systems) [CS108].	equipment break-in or maintenance [E55]. Clear spills immediately [C&H13].
PROC3:	
General exposures (closed systems)	Professional worker
[CS15]; Use in contained batch	5-25%: Avoid carrying out operation for more than 4 hours [OC12]
processes [CS37];	
-	Recommendation:
Material transfers [CS3]; Mixing	Ensure the system is closed; Drain down and flush system prior to equipment break-in or
operations (closed systems) [CS29].	maintenance [E55]. Clear spills immediately [C&H13].
Process sampling [CS2] (open	
systems) [CS108].	
PROC4:	
General exposures [CS1]; Batch	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee
process [CS55] (open systems)	training [PPE16]. Plus:
[CS108]	
	Industrial worker
	5-25%: Ensure material transfers are under containment or extract ventilation [E66] or
	Provide extract ventilation to material transfer points and other openings [E82].
	(Efficiency: ≥ 90%) Or Wear a respirator conforming to EN140 with Type A/P2 filter or
	better [PPE29] (Protection Factor ≥ 10).
	<5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid
	, , , , , , , , , , , , , , , , , , , ,



	carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for more than 1 hour [OC11]
	Professional worker 5-25%: Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10) And avoid carrying out operation for more than 4 hours [OC12] <5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for more than 1 hour [OC11]
	Recommendation:
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC5: General exposures [CS1]; Mixing operations (open systems) [CS30]; Batch process [CS55];	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
[OGGG], Batch process [OGGG],	 Industrial worker 5-25%: Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency: ≥ 90%) Or Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10). <5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for more than 1 hour [OC11]
	Professional worker 5-25%: Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10) And avoid carrying out operation for more than 4 hours [OC12] <5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for more than 1 hour [OC11]
	Recommendation: Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills
PROC8a: General exposures [CS1]. Non-dedicated facility [CS82] Material transfers [CS3];	immediately [C&H13]. Clean equipment and the work area every day [C&H3]. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
material transfers [000],	5-25%: Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82] (Efficiency: ≥ 80%) And Avoid carrying out operation for more than 1 hour [OC11] Or Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10). Avoid carrying out operation for more than 4 hours [OC12]. <5%: Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82]



	(Efficiency: ≥ 80%) Or Wear a disposable mask FFP1 (Assigned Protection Factor: 4)
	or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid
	carrying out operation for more than 1 hour [OC11]
	Recommendation:
	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills
	immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC8b:	
General exposures [CS1]. Dedicated facility [CS81] Material transfers [CS3];	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. Plus:
	Industrial worker
	5-25%: Ensure material transfers are under containment or extract ventilation [E66] or Provide extract ventilation to material transfer points and other openings [E82]. (Efficiency: ≥ 90%) Or Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10).
	<5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation for more than 1 hour [OC11]
	Professional worker 5-25%: Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10) better And avoid carrying out operation for more than 4 hours [OC12]. <5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation
	for more than 1 hour [OC11] Recommendation: Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean
	equipment and the work area every day [C&H3]; Clear spills immediately [C&H13].
PROC13: Treatment of articles by dipping and pouring	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. Plus:
	5-25%: Avoid carrying out operation for more than 4 hour [OC12].
PROC14:	, , , , , , , , , , , , , , , , , , , ,
General exposures (open systems)	Wear suitable gloves tested to EN374 [PPE15].
[CS16];	Plus:
Production or preparation or articles by	
tabletting, compression, extrusion or	Industrial worker
pelletisation [CS100].	5-25%: Provide extract ventilation to material transfer points and other openings [E82]; Ensure material transfers are under containment or extract ventilation [E66]. (Efficiency: ≥ 90%) Or Avoid carrying out operation for more than 4 hours [OC12] and Wear a disposable dust mask (FFP1, Assigned Protection Factor: 4) or better Or Avoid carrying out operation for more than 1 hour [OC11]
	Professional worker 5-25%: Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]



	(Protection Factor ≥ 10) better And avoid carrying out operation for more than 4 hours
	[OC12].
	<5%: Wear a disposable mask FFP1 (Assigned Protection Factor: 4) or better And avoid carrying out operation for more than 4 hours [OC12] Or Avoid carrying out operation
	for more than 1 hour [OC11]
	ioi more than i nodi [GGT1]
	Recommendation:
	Clear spills immediately [C&H13]; Clean equipment and the work area every day [C&H3].
PROC 19:	
Manual [CS34]; Mixing operations	Limit the substance content in the product to 5% [OC17] And Wear a respirator conforming to
(open systems) [CS30].	EN140 with Type A/P2 filter or better [PPE29] (Protection Factor ≥ 10). Wear chemically
	resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. Plus:
	Industrial worker
	Avoid carrying out operation for more than 4 hours [OC12]
	, g , g
	Professional worker
	Avoid carrying out operation for more than 1 hour [OC11]
	Recommendation:
Ocation 0.0	Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Continuous release. [FD2] Emission Days (days/year): 300 [FD4].
Other Operational Conditions of use	Product applied in aqueous process solution with negligible volatilization [OOC23].
affecting environmental exposure	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2];
	Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and	Spent process fluid discharged to wastewater. [OOC19]
measures to reduce or limit	
discharges, air emissions and releases to soil	
Organization measures to prevent/limit	Not applicable
release from site	The applicable
Conditions and measures related to	Not applicable
municipal sewage treatment plant	
Conditions and measures related to	External treatment and disposal of waste should comply with applicable local and/or national
external treatment of waste for	regulations [ETW3]
disposal	
Conditions and measures related to	Not applicable
external recovery of waste	
Other environmental control measures	Not applicable
additional to above	Firm a sum Fakimakian
Section 3	Exposure Estimation
3.1. Health	o exceed the applicable exposure limits (given in section 8 of the eSDS when the operational

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the eSDS when the operational conditions/risk of management measures given in section 2 are implemented [G29]

3.2. Environment

Predicted exposures are not expected to exceed the applicable exposure limits when the

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	operational conditions/risk management measures given in section 2 are implemented [G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	·
The ECETOC TRA tool has	been used to estimate workplace exposures unless otherwise indicated [G21] version 2.0
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise indicated.
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
Control of Worker Exposur	e
Cleaning [CS47]	Clear spills immediately [C&H13]; Wear chemically resistant gloves (tested to EN374) in
31 1	combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
Use of PPE	Skin protection:
	Gloves take attention to the breakthrough time of NaSCN. Train the employees how to put on
	and off the gloves, and how to use gloves in a proper way.
	Respiratory protection:
	Respirators: - Wear a disposable mask only once
	- Clean the non-disposable masks after every use and storage in a clean
	box and area.
	Preferable to wear respirators ≤ 2 hours a day.



ES6: Use in building and construction

Describtion of ES 6

Section 1	Exposure scenario Title
Title	Industrial and professional use of NaSCN formulations in building and construction
	products (low dustiness)
Use Descriptor	Sector of Use Industrial and Professional: SU3, SU22; SU19
	Process Categories: PROC5, PROC8a, PROC8b, PROC10, PROC14, PROC19; PROC24a
	Environmental Release Categories: EFCC spERC 5.1a.v1, 8c.1a.v1, 8f.1a.v1
Processes, tasks, activities covered	Covers the use of formulations in the building and construction, material transfers, application by rolling, brushing, wiping, tabletting, compression, cutting, drilling, equipment cleaning.
GES exposure criteria	Worker
	DNEL (inhalation): 3.00 mg/m ³
	DNEL (skin): 1.68 mg/kg bw/day
	Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
	Environmental PNECs (SCN- equivalent)
	PNEC aqua (freshwater): 0.095 mg/L
	PNEC aqua (marine water): 0.0095 mg/L
	PNEC aqua (intermittent release): 0.0272 mg/L
	PNEC sediment (freshwater): 0.543 mg/kg sediment dw
	PNEC sediment (marine water): 0.0543 mg/kg sediment dw
	PNEC soil: 6.336 mg/kg soil dw
	PNEC stp: 30 mg/L
	PNEC oral: 1.667 mg/kg food
	Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio
	accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	
Physical form of product	Solid, low dustiness [OC1];
	Solid, vapor pressure: <<0.01 Pa
	Aqueous solution, vapor pressure of substance << 0.01 Pa (completely dissociated)
	Exposure by aerosols
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
Amounts used	Varies between milliliters (sampling) and cubic meters (material transfers) [OC13].
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	Not applicable



	Diogas y Froductos dulmicos							
Other Operational Conditions affecting worker exposure	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure operatives are trained to minimize exposures [EI119].							
	Assumes use at not > 20°C above ambient [G15]; Assumes activities are at ambient temperature (unless stated differently) [G17]. Indoor [OC8].							
Contributing Scenarios	Risk Management Measures							
Due to eye irritating properties of the su	l bstance: Use suitable eye protection [PPE26].							
Avoid skin contact								
PROC5:								
General exposures (open systems) [CS16].	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].							
Mixing operations (open systems)	Recommendation:							
[CS30]. Batch process [CS55].	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53]. Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3].{Clear spills immediately [C&H13]							
PROC8a:								
General exposures (open systems) [CS16]. Non-dedicated facility [CS82];	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].							
Material transfers [CS3];	Recommendation: Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53]; Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].							
PROC8b:								
General exposures (open systems) [CS16]; Dedicated facility [CS81].	> 5%: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].							
Matarial transfers [CC2]	Recommendation:							
Material transfers [CS3];	Use bulk or semi-bulk handling systems [E43]; Use drum pumps [E53]. Drain down and flush system prior to equipment break-in or maintenance [E55]. Clean equipment and the work area every day [C&H3]. Clear spills immediately [C&H13].							
PROC10 Rolling, Brushing [CS51]								
(open systems) [CS108]; Roller, spreader, flow application [CS98]; General exposures [CS1];	Limit the substance content in the product to 25% [OC18] and Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].							
	Recommendation:							
Equipment cleaning and maintenance [CS39].	Use long handled tools where possible [E50]; Clean equipment and the work area every day [C&H3]; Clear spills immediately [C&H13]; Avoid splashing [C&H15].							
PROC14:								
Production or preparation or articles by tabletting, compression, extrusion	> 5%: Wear chemically resistant gloves tested to EN374 [PPE15].							
or pelletisation [CS100]; General	Recommendation:							



	Diogas y Froductos adminicos
exposures (open systems) [CS16].	Drain down and flush system prior to equipment break-in or maintenance [E55]. Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC 19:	
Manual [CS34];	Limit the substance content in the product to 5% [OC17] And
Mixing operations (open systems)	Wear chemically resistant gloves (tested to EN374) in combination with specific activity
[CS30].	training [PPE17].
	Recommendation:
	Stay upwind/keep distance from source [El22].
	Clear spills immediately [C&H13]. Clean equipment and the work area every day [C&H3].
PROC24a:	
	> 5%: Wear chemically resistant gloves (tested to EN374) in combination with 'basic'
e,g,:	employee training [PPE16].
Roller, spreader, flow application	Plus:
[CS98]; Drill floor operations	
[CS116];	Professional worker:
-	> 25%: Avoid carrying out operation for more than 4 hours [OC12]
	Recommendation:
	Clean equipment and the work area every day [C&H3].
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Continuous release. [FD2] Emission Days (days/year): 220 (industrial use), 365 (service life)
requeries and duration of disc	[FD4].
Other Operational Conditions of use	Product applied in aqueous process solution with negligible volatilization [OOC23].
affecting environmental exposure	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2];
anecting environmental exposure	Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and	Not applicable
measures to reduce or limit	Not applicable
discharges, air emissions and	
releases to soil	
Organization measures to	Not applicable
prevent/limit release from site	Not applicable
Conditions and measures related to	Net applicable
	Not applicable
municipal sewage treatment plant	External treatment and disposal of wests should comply with and included and and included
Conditions and measures related to external treatment of waste for	External treatment and disposal of waste should comply with applicable local and/or national
	regulations [ETW3]
Canditions and massures related to	Net applicable
Conditions and measures related to	Not applicable
external recovery of waste	Net applicable
Other environmental control measures additional to above	Not applicable
	Function Felimetics
Section 3	Exposure Estimation
3.1 Haalth	

3.1. Health

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the eSDS when the operational conditions/risk of management measures given in section 2 are implemented [G29]



3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the
	operational conditions/risk management measures given in section 2 are implemented [G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	
The ECETOC TRA tool has b	peen used to estimate workplace exposures unless otherwise indicated [G21] version 2.0;
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise
	indicated.
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
Note: The measures report	ed in this section have not been taken into account in the exposure estimates related to the
•	·
exposure scenario above.	They are not subject to obligation laid down in Article 37 (4) of REACH.
Control of Worker Exposur	re
Cleaning [CS47]	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in
	combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
Use of PPE	Skin protection:
OSE OI FFL	
	Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on and
	off the gloves, and how to use gloves in a proper way.
	Descriptory must estimate
	Respiratory protection:
	Respirators: - Wear a disposable mask only once
	- Clean the non-disposable masks after every use and storage in a clean box
	and area.
	Preferable to wear respirators ≤ 2 hours a day.



ES7: Use in laboratory settings

Description of ES7

Section 1	Exposure scenario Title
Title	Professional laboratory use of NaSCN (low dustiness)
Use Descriptor	Sector of Use: SU22
	Process Categories: PROC10, PROC15.
	Environmental Release Categories: ERC8a
Processes, tasks, activities covered	Covers the use of the substance within laboratory settings, including material transfers and equipment cleaning.
GES exposure criteria	Worker
	DNEL (inhalation): 3.00 mg/m ³
	DNEL (skin): 1.68 mg/kg bw/day
	Not classified as 1 or 2 Carcinogenic Mutagenic and/or Reproduction toxic
	Environmental PNECs (SCN- equivalent)
	PNEC aqua (freshwater): 0.095 mg/L
	PNEC aqua (marine water): 0.0095 mg/L
	PNEC aqua (intermittent release): 0.0272 mg/L
	PNEC sediment (freshwater): 0.543 mg/kg sediment dw
	PNEC sediment (marine water): 0.0543 mg/kg sediment dw
	PNEC soil: 6.336 mg/kg soil dw
	PNEC stp: 30 mg/L
	PNEC oral: 1.667 mg/kg food
	Not classified as Persistent Bio Accumulation and toxic, nor very Persistent and very Bio
	accumulating
Section 2	Operational conditions and risk management measures
Section 2.1	Control of worker exposure
Product characteristics	Control of worker exposure
Physical form of product	Solid, low dustiness [OC1].
Thysical form of product	Solid, vapor pressure: <<0.01 Pa
	Aqueous solution, vapor pressure of substance << 0.01 Pa (completely dissociated)
	Addition, vapor pressure of substance << 0.011 a (completely dissociated)
	Exposure by aerosols
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
Amounts used	Not applicable
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	Not applicable
Other Operational Conditions affecting	Assumes a good basic standard of occupational hygiene is implemented [G1]. Ensure
worker exposure	operatives are trained to minimize exposures [EI119].
	Assumes use at not > 20°C above ambient [G15];
	Assumes activities are at ambient temperature (unless stated differently) [G17].

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207. 000 of cond codium timocyanate	in professional laboratory settings (solid and in an aqueous solution) CAS: 540-72-7
	Indoor [OC8].
Contributing Scenarios	Risk Management Measures
	 stance: Use suitable eye protection [PPE26].
Avoid skin contact.	
PROC10	
General exposures [CS1]; Rolling, Brushing [CS51]; Wiping [CS50].	Limit the substance content in the product to 25% [OC18] and Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
Equipment cleaning and maintenance	Recommendation:
[CS39].	Use long handled tools where possible [E50]; Clean equipment and the work area every day [C&H3]; Clear spills immediately [C&H13]; Avoid splashing [C&H15].
PROC15:	
Laboratory activities [CS36]; Small scale [CS61]. Manual [CS34].	No specific measures identified [EI18].
Section 2.2	Control of environmental exposure
Product characteristics	Non-hydrophobic [PrC4b]. Readily biodegradable [PrC5a].
Frequency and duration of use	Emission Days (days/year): 20 [FD4].
Other Operational Conditions of use	Product applied in aqueous process solution with negligible volatilization [OOC23].
affecting environmental exposure	Local freshwater dilution factor: 10 [EF1]. Local marine water dilution factor: 100 [EF2]; Spent process fluid discharged to wastewater. [OOC19]
Technical onsite conditions and	Not applicable
measures to reduce or limit discharges,	
air emissions and releases to soil	
Organization measures to prevent/limit release from site	Not applicable
Conditions and measures related to	Not applicable
municipal sewage treatment plant Conditions and measures related to	External treatment and disposal of waste should comply with applicable local and/or nationa
external treatment of waste for disposal	regulations [ETW3]
Conditions and measures related to	Not applicable
external recovery of waste	
Other environmental control measures	Not applicable
additional to above	
Section 3	Exposure Estimation
3.1. Health	
Predicted exposures are not expected to	exceed the applicable exposure limits (given in section 8 of the eSDS when the operational
conditions/risk of management measures	given in section 2 are implemented [G29]
3.2. Environment	Predicted exposures are not expected to exceed the applicable exposure limits when the
	operational conditions/risk management measures given in section 2 are implemented [G29]
Section 4	Guidance to check compliance with the Exposure Scenario
4.1. Health	Guidando to oncor compitance with the Exposure ocentario
7. I. (150IIII	1



ES7: Use of solid Sodium thiocya	nate in professional laboratory settings (solid and in an aqueous solution) CAS: 540-72-7
4.2. Environment	EUSES 2.1 has been used to estimate environmental exposure [EE3] unless otherwise
	indicated.
Section 5	Additional good practice advice beyond the REACH Chemical Safety Assessment
Note: The measures reported in the	nis section have not been taken into account in the exposure estimates related to the
•	re not subject to obligation laid down in Article 37 (4) of REACH.
expectation desired and television and the	o not oubject to obligation laid down in 7 it told of (1) of (12/10/11
Control of Worker Exposure	
Cleaning [CS47]	Clear spills immediately [C&H13]: Wear chemically resistant gloves (tested to EN374) in
	combination with specific activity training [PPE17] and Use suitable eye protection [PPE26]
Use of PPE	Skin protection:
	Gloves take attention to the breakthrough time of NaSCN. Train the employees putting on
	and off the gloves, and how to use gloves in a proper way.
	Respiratory protection:
	Respirators: - Wear a disposable mask only once
	- Clean the non-disposable masks after every use and storage in a clean box
	and area.
	Preferable to wear respirators ≤ 2 hours a day.



Appendix 1. Human health/worker exposure estimation

1 The exposure limits of NaSCN.

Reference Values												
DNEL worker - inhalation (long term)	3.00	mg/m3										
DNEL worker - inhalation (short term)	15	mg/m3										
DNEL worker - dermal (long term)	1.68	mg/kg/day										

2 The operational conditions of uses of NaSCN

Default Operational Conditions	
frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
other Operational Conditions of use	Assumes use at not > 20°C above ambient
	Assumes a good basic standard of occupational hygiene is implemented
	Indoor
physical form of product	Solid (crystals) and in an aqueous solution: vapor pressure of NaSCN in water < 0.01
	Pa (dissociation is complete)
	E.g: Solid and Aqueous solution: vapor pressure of NaSCN <<0.01Pa; exposure by aerosols

3 Overview of the 7 Exposure Scenarios, including the process categories in accordance with the ECHA guidance R12 and the life cycle of use

	1	2	3	4	5	6	7
Processes,	Manufacture	Formulation,	Use of NaSCN as	Covers the	Covers the	Covers the	Covers the
tasks,	of NaSCN.	packing and	an intermediate or	use of	use in all	use of	use of the
activities	Company	re-packing of	process chemical	formulated	kinds of	formulations	substance
covered	specific – each	the substance	or extraction	spraying	applications	in the building	within
	company	(including	agent. Includes	product	of non	and	laboratory
	provides its	drums and	recycling/recovery,	including	spraying	construction,	settings,
	own	small packs)	material transfers,	weighing,	formulations	material	including
	information for	and his	storage,	transfer	including	transfers,	material
	this section	mixtures in	maintenance and	operations	material	application by	transfers and
		batch or	(un)loading	and	receipt,	rolling,	equipment
		continuous	(including road car	automated	storage,	brushing,	cleaning,
		operations,	and bulk	and manual	preparation	wiping,	maintenance
		including	container),	spraying	and transfer,	tabletting,	and
		storage,	sampling and	applications.	application by	compression,	laboratory
		material	associated		roller and	cutting,	activities.
		transfers,	laboratory		brush, wiping,	drilling,	
		mixing,	activities.		dip,	equipment	
		tabletting,			equipment	cleaning	
		compression,			cleaning,		
		pelletisation,			maintenance		
		extrusion,			and		
		large and			laboratory		
		small scale			activities.		
		packing,					
		sampling,					
		maintenance					

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		•					
		and					
		laboratory					
		activities.					
		Loading					
		(including					
		marine					
		vessel/barge,					
		rail/road car					
		and IBC					
		loading)					
		including its					
		distribution.					
Life Cycle	Company	Industrial (SU3,	Industrial (SU3,	Industrial (SU3)	Industrial (SU3)	Industrial	Professional
Stage /	specific – each	SU8,	SU8, SU9	and	and	(SU3),	(SU22)
Sector of	company	SU9 ,SU10)		Professional	Professional	Professional	
Use	provides its			(SU22)	(SU22)	(SU19, SU22)	
	own						
	information for						
	this section						
Applicable		PROC1,	PROC1, PROC2,	PROC1,	PROC1,	PROC5,	PROC10,
Use		PROC2,	PROC3, PROC4,	PROC2,	PROC2,	PROC8a,	PROC15
Descriptors		PROC3,	PROC8a, PROC8b,	PROC3,	PROC3,	PROC8b,	
(PROC or		PROC4,	PROC10, PROC15	PROC5,	PROC4,	PROC10,	
PC)		PROC5, PR		PROC7,	PROC5,	PROC14,	
		OC8a,		PROC8a,	PROC8a,	PROC19,	
		PROC8b,		PROC8b,	PROC8b,	PROC24	
		PROC9,		PROC10,	PROC10,		
		PROC10,		PROC11,	PROC13,		
		PROC14,		PROC19	PROC14,		
		PROC15.			PROC19		
		PROC19					

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Issue date: 27-09-2013.

Safety Data Sheet According to Regulation (EC) No 1907/2006



sodium thiocyanate

Issue date: 27/09/2013 SDS Record Number: CSSS-TCO-010-113468

Revision date: 27/09/2013 Version 2.0

4 Overview of the general exposure assessment (ECETOC Tra model Version 2) by process category for substance NaSCN as a solid and in an aqueous solution (low dustiness; ≤100%)

ation	Use Descriptor			Inhal	atory ex	xposure				Dermal exposure							Risk Characterization			Risk Management Measures (RMMs)
Life Cycle Stage / Area of Application	Process Category	TRA Predicted Exposure (mg/m3) - no modifiers	TRA LEV : efficiency (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure -(mg/m3) - modified	TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) -	RCR (inhalation)	RCR (dermal)	RCR (all routes)	RMMs for communication - Consolidate into GES or e-SDS REACH ADVISED: phrase [RMM code] Recommended: {phrase [RMM code].}
SU3; SU22	1 - Use in closed process, no likelihood of exposure	0.01							0.01	0.343						0.34	0.00	0.20	0.21	No specific measures identified [EI18]. {Ensure the system is closed}; {Clear transfer lines prior to de-coupling [E39]}.



SU3; SU22	2 - Use in closed process, no likelihood of exposure	0.01				0.01	1.371			1.37	0.00	0.82	0.82	No specific measures identified [EI18]. {Ensure the system is closed}; {Clear transfer lines prior to de-coupling [E39]}. {Clear spills immediately
SU3; SU22	3 - Use in closed batch process (synthesis or formulation)	0.1				0.10	0.343			0.34	0.03	0.20	0.24	[C&H13]}. No specific measures identified [E118]. {Ensure the system is closed}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clear spills immediately
SU3	4 - Use in batch and other process (synthesis) where opportunity for exposure arises	0.5				0.50	6.857		gloves-basic training	0.69	0.17	0.41	0.57	[C&H13]}. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. {Use bulk or semi-bulk handling systems [E43]}; {Drain down and flush system prior



														to equipment break-in or maintenance [E55]}.{Clean equipment and the work area every day [C&H3]}; {Clear
														spills immediately [C&H13]}.
SU3	4 - Use in batch and other process (synthesis) where opportunity for exposure arises	0.5	1-5%			0.10	6.857	1-5%		1.37	0.03	0.82	0.85	Limit the substance content in the product to 5% [OC17]. {Use bulk or semi-bulk handling systems [E43]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}.{Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU22	4 - Use in batch and other process (synthesis) where opportunity for exposure	1				1.00	6.857		gloves-basic training	0.69	0.33	0.41	0.74	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].



												Diogas y i i		
	arises													semi-bulk handling
														systems [E43]};
														{Drain down and
														flush system prior
														to equipment
														break-in or
														maintenance
														[E55]}.{Clean
														equipment and the
														work area every
														day [C&H3]}. {Clear
														spills immediately
														[C&H13]}.
SU22	4 - Use in	1	1-5%			0.20	6.857	1-5%		1.37	0.07	0.82	0.88	Limit the substance
	batch and													content in the
	other													product to 5%
	process													[OC17].
	(synthesis)													
	where													{Use bulk or
	opportunity													semi-bulk handling
	for exposure													systems [E43]};
	arises													(Drain down and
														flush system prior
														to equipment
														break-in or
														maintenance
														[E55]}. {Clean
														equipment and the
														work area every
														day [C&H3]}. {Clear
														spills immediately
														[C&H13]}.

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	1	1		1	 	-					 				
SU3	5 -Mixing or	0.5					0.50	13.714		gloves-specific	0.69	0.17	0.41	0.57	Wear chemically
	blending in									training					resistant gloves
	batch														(tested to EN374)
	processes														in combination with
	(multistage														specific activity
	and/or														training [PPE17].
	significant														traning [r r = 17].
	_														(Llaa bulli ar
	contact)														{Use bulk or
															semi-bulk handling
															systems [E43]};
															(Drain down and
															flush system prior
															to equipment
															break-in or
															maintenance
															[E55]}.{Clean
															equipment and the
															work area every
															day [C&H3]}. {Clear
															spills immediately
01100	5 M: :						4.00	10.711			0.00	0.00	0.44	0.74	[C&H13]}.
SU22	5 -Mixing or	1					1.00	13.714		gloves-specific	0.69	0.33	0.41	0.74	Wear chemically
	blending in									training					resistant gloves
	batch														(tested to EN374)
	processes														in combination with
	(multistage														specific activity
	and/or														training [PPE17].
	significant														
	contact)														{Use bulk or
															semi-bulk handling
															systems [E43]};
															Drain down and
															flush system prior
															to equipment
															break-in or
															maintenance
]				папцепапсе



SU3 7-Industrial 1 5-25% 1-4 hours 0.36 42.860 5-25% Gloves-specific training	
	[E55]}. {Clea equipment a work area ev day [C&H3]}.
	spills immedi [C&H13]}.
	1.29 0.12 0.77 0.89 Limit the sub content in the product to 25 [OC18]. Weather the combination specific active training [PPE]
	and the work every day [C&H3]}.; {Clear spills immediately [C&H13]}.
SU3 7 -Industrial 1 spraying 1 1-5% Gloves-basic training	0.86 0.07 0.51 0.58 Limit the subcontent in the product to 59 [OC17]. Weather the product to 59 gloves (tested EN374) in combination 'basic' employer training [PPE]



													TOUGOTOS Q	
														and the work area every day [C&H3]}.; {Clear spills immediately [C&H13]}.
SU3; SU22	8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	0.5				0.50	13.714		gloves-specific training	0.69	0.17	0.41	0.57	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].; {Use bulk or semi-bulk handling systems [E43]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU3	8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	0.1				0.10	6.857		gloves-basic training	0.69	0.03	0.41	0.44	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].

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												Diogas y i		
														semi-bulk handling
														systems [E43]};
														(Drain down and
														flush system prior
														to equipment
														break-in or
														maintenance
														[E55]}. {Clean
														equipment and the
														work area every
														day [C&H3]}. {Clear
														spills immediately
														[C&H13]}.
SU3	8b -Transfer	0.1	1-5%			0.02	6.857	1-5%		1.37	0.01	0.82	0.82	Limit the substance
	of chemicals													content in the
	from/to													product to 5%
	vessels/													[OC17].
	large													
	containers at													{Use bulk or
	dedicated													semi-bulk handling
	facilities													systems [E43]};
														{Drain down and
														flush system prior
														to equipment
														break-in or
														maintenance
														[E55]}. {Clean
														equipment and the
														work area every
														day [C&H3]}. {Clear spills immediately
														[C&H13]}.
														[ΟαΠιο]}.



SU22	8b -Transfer	0.5					0.50	6.857		gloves-basic	0.69	0.17	0.41	0.57	Wear chemically
	of chemicals									training					resistant gloves
	from/to														(tested to EN374)
	vessels/														in combination with
	large														'basic' employee
	containers at														training [PPE16].
	dedicated														
	facilities														{Use bulk or
	laominos														semi-bulk handling
															systems [E43]};
															{Drain down and
															flush system prior
															to equipment
															break-in or
															maintenance
															[E55]}. {Clean
															equipment and the
															work area every
															day [C&H3]}.
															{Clear spills
															immediately
															[C&H13]}.
SU22	8b -Transfer	0.5		1-5%			0.10	6.857	1-5%		1.37	0.03	0.82	0.85	Limit the substance
	of chemicals														content in the
	from/to														product to 5%
	vessels/														[OC17].
	large														
	containers at														(Drain down and
	dedicated														flush system prior
	facilities														to equipment
															break-in or
															maintenance
															[E55]}; {Use bulk or
															semi-bulk handling
															systems [E43]}.
															{Clean equipment
	I	1	1		L	 			 	l l	 	l	!	1	



												Drogus y r		
														and the work area every day [C&H3]]; {Clear spills immediately [C&H13]}.
SU3	9 -Transfer of chemicals into small containers (dedicated filling line)	0.1				0.10	6.857		gloves-basic training	0.69	0.03	0.41	0.44	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. {Drain down and flush system prior to equipment break-in or maintenance [E55]}.{Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU3	9 -Transfer of chemicals into small containers (dedicated filling line)	0.1	1-5%			0.02	6.857	1-5%		1.37	0.01	0.82	0.82	Limit the substance content in the product to 5% [OC17]. {Use bulk or semi-bulk handling systems [E43]}; {Drain down and flush system prior to equipment

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	1		1	1	, ,	 ,			,		т	 _				
																break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU22	9 -Transfer of chemicals into small containers (dedicated filling line)	0.5					0.50	6.857			gloves-basic training	0.69	0.17	0.41	0.57	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU22	9 -Transfer of chemicals into small containers (dedicated filling line)	0.5	1-5%				0.10	6.857		1-5%		1.37	0.03	0.82	0.85	Limit the substance content in the product to 5% [OC17]. {Drain down and flush system prior to equipment break-in or



	ı	1	1	ı	ı		 -		,	1		1	-	_				
																		maintenance
																		[E55]}. {Clean
																		equipment and the
																		work area every
																		day [C&H3]}. {Clear
																		spills immediately
																		[C&H13]}.
S3	10 - Roller	0.5		5-25%			0.30	27.4286		5-25%	gloves-specific			0.82	0.10	0.49	0.59	Limit the substance
S22	application or										training							content in the
	brushing																	product to 25%
																		[OC18].Wear
																		chemically resistant
																		gloves (tested to
																		EN374) in
																		combination with
																		specific activity
																		training [PPE17].
																		{Use long handled
																		tools where
																		possible [E50]}.
																		(Clean equipment
																		and the work area
																		every day [C&H3]};
																		{Clear spills
																		immediately
																		[C&H13]}.;
																		{Avoid splashing
																		[C&H15]}.
S3	10 - Roller	0.5		1-5%			0.10	27.4286		1-5%	gloves			1.10	0.03	0.65	0.69	Limit the substance
S22	application or																	content in the
	brushing																	product to 5%
																		OC17].Wear
																		suitable gloves
																		tested to EN374
	1										ı							

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														[PPE15].
														{Use long handled tools where possible [E50]}. {Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.; {Avoid splashing [C&H15]}
SU22	11 - Non industrial spraying	1	5-25%	1-4 hours		0.36	107.140	5-25%	gloves-intensive controls	1.29	0.12	0.77	0.89	Limit the substance content in the product to 25% [OC18]. Avoid carrying out operation for more than 4 hours [OC12] Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls [PPE18]. {Clean equipment and the work area every day [C&H3]}.; {Clear spills immediately



	1					-									
															[C&H13]}.
SU22	11 - Non	1	1-5%				0.20	107.140	1-5%	Gloves- specific	1.07	0.07	0.64	0.70	Limit the substance
	industrial									training					content in the
	spraying														product to 5%
															[OC17]. Wear
															chemically resistant
															gloves (tested to
															EN374) in
															combination with
															specific activity
															training [PPE17].
															(Clean equipment
															and the work area
															every day
															[C&H3]}.;
															{Clear spills
															immediately
															[C&H13]}.
SU3	13	0.1					0.10	13.714		Gloves- specific	0.69	0.03	0.41	0.44	Wear chemically
	-Treatment of									training					resistant gloves
	articles by														(tested to EN374)
	dipping and														in combination with
	pouring														specific activity
															training [PPE17].
															(Clean equipment
															and the work area
															every day
															[C&H3]}.;
															{Clear spills
															immediately
															[C&H13]}.
SU2	13	0.5					0.50	13.714		Gloves- specific	0.69	0.17	0.41	0.57	Wear chemically
	-Treatment of									training					resistant gloves
	articles by			1	1				1	1	1	1	1	1	



	dipping and pouring													in combination with specific activity training [PPE17].
														{Clean equipment and the work area every day [C&H3]}.; {Clear spills immediately [C&H13]}.
SU3	14 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation	0.1				0.10	3.429		gloves	0.69	0.03	0.41	0.44	Wear suitable gloves tested to EN374 [PPE15]. {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU3	14 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation	0.1	1-5%			0.02	3.429	1-5%		0.69	0.01	0.41	0.41	Limit the substance content in the product to 5% [OC17]. {Drain down and flush system prior to equipment break-in or maintenance



																[E55]}. {Clean equipment and the work area every
																day [C&H3]}. {Clear
																spills immediately
																[C&H13]}.
SU22	14 -	1						1.00	3.429		gloves	0.69	0.33	0.41	0.74	Wear suitable
	Production of															gloves tested to
	preparations															EN374 [PPE15].
	or articles by															
	tabletting,															(Drain down and
	compression,															flush system prior
	extrusion,															to equipment
	pelletisation															break-in or maintenance
																[E55]}.{Clean
																equipment and the
																work area every
																day [C&H3]}; {Clear
																spills immediately
																[C&H13]}.
SU22	14 -	1		1-5%				0.20	3.429	1-5%		0.69	0.07	0.41	0.47	Limit the substance
	Production of															content in the
	preparations															product to 5%
	or articles by															[OC17].
	tabletting,															
	compression,															{Drain down and
	extrusion,															flush system prior
	pelletisation															to equipment
																break-in or
																maintenance
																[E55]}. {Clean equipment and the
																work area every
																day [C&H3]}; {Clear
																spills immediately
	j	<u> </u>	1	I .	I	<u> </u>							<u> </u>	<u> </u>		



																[C&H13]}.
SU3; SU22	15 - Use of laboratory reagents in small scale laboratories	0.1				0.10	0.343					0.34	0.03	0.20	0.24	No specific measures identified [EI18].
SU3; SU22	19 - Hand-mixing with intimate contact (only PPE available	0.5	1-5%			0.10	141.43		1-5%	gloves-specific training		1.41	0.03	0.84	0.88	Limit the substance content in the product to 5% [OC17]. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}; {Stay upwind/keep distance from source [EI22]}.
SU3	24a - High (mechanical) energy work-up of substances bound in materials and/or articles - pt <mp -="" low<="" td=""><td>1</td><td></td><td></td><td></td><td>1.00</td><td>2.829</td><td></td><td></td><td>gloves</td><td></td><td>0.57</td><td>0.33</td><td>0.34</td><td>0.67</td><td>Wear suitable gloves tested to EN374 [PPE15]. {Clean equipment and the work area every day [C&H3]}.</td></mp>	1				1.00	2.829			gloves		0.57	0.33	0.34	0.67	Wear suitable gloves tested to EN374 [PPE15]. {Clean equipment and the work area every day [C&H3]}.

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	Fugacity															
SU3	24a - High	1	1-5%			0.2	2.82	9	1-5%			0.57	0.07	0.34	0.40	Limit the substance
	(mechanical)		. 070			0.2		Ĭ	1 0 70			0.07	0.07	0.01	0.10	content in the
	energy															product to 5%
	work-up of															[OC17];
	substances															
	bound in															(Clean equipment
	materials															and the work area
	and/or															every day [C&H3]}.
	articles -															
	pt <mp -="" low<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></mp>															
	Fugacity															
SU22	24a - High	3		1-4		1.8	2.82	9		gloves-basic		0.28	0.60	0.17	0.77	Avoid carrying out
	(mechanical)			hours						training						operation for more
	energy															than 4 hours
	work-up of															[OC12]; Wear
	substances															chemically resistant
	bound in															gloves (tested to
	materials and/or															EN374) in combination with
	articles -															'basic' employee
	pt <mp -="" low<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>training [PPE16].</td></mp>															training [PPE16].
	Fugacity															
	- 3,															{Clean equipment
																and the work area
																every day [C&H3]}.



												orogao y r i		
SU22	24a - High	3	5-25%		1.80	2.829	5-25%	gloves-basic		0.17	0.60	0.10	0.70	Limit the substance
	(mechanical)							training						content in the
	energy													product to 25%
	work-up of													[OC18]; Wear
	substances													chemically resistant
	bound in													gloves (tested to
	materials													EN374) in
	and/or													combination with
	articles -													'basic' employee
	pt <mp -="" low<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>training [PPE16].</td></mp>													training [PPE16].
	Fugacity													
														{Clean equipment
														and the work area
														every day [C&H3]}.
SU22	24a - High	3	1-5%		0.60	2.829	1-5%			0.57	0.20	0.34	0.54	Limit the substance
	(mechanical)													content in the
	energy													product to 5%
	work-up of													[OC17];
	substances													
	bound in													(Clean equipment
	materials													and the work area
	and/or													every day [C&H3]}.
	articles -													
	pt <mp -="" low<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></mp>													
	Fugacity													



5 Overview of the general exposure assessment (EcetocECETOC Tra model) by process category for substance NaSCN as a solid formulation (medium dustiness; ≥ 25%)

ion	Use Descriptor			In	nhalato	ry exp	osure					Dern	nal exposu	ıre			Risk	Charact	erization	Risk Management Measures (RMMs
Life Cycle Stage / Area of Application	Process Categor y	TRA Predicted Exposure - (mg/m3) - no modifiers	TRA LEV : efficiency (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (mg/m3) - modified	TRA Predicted Dermal exposure (mg/kg/d) - no modifiers	TRA Dermal exposure LEV reduction factor	TRA concentration factor	PPE factor	extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (dermal)	Predicted Dermal Exposure (mg/kg/d) - modified	RCR (inhalation)	RCR (dermal)	RCR (all routes)	RMMs for communication - Consolidate into GES or e-SDS REACH ADVISED: phrase [RMM code] Recommended: {phrase [RMM code].}
SU3; SU22	1 - Use in closed process, no likelihood of exposure	0.01							0.01	0.343						0.34	0.00	0.20	0.21	No specific measures identified [EI18]. {Ensure the system is closed} {Clear transfer lines prior to de-coupling [E39]}.
SU3	2 - Use in closed process, no likelihood of	0.5							0.50	1.371			gloves			0.27	0.17	0.16	0.33	Wear suitable gloves tested to EN374 [PPE15]. {Ensure the system is

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	exposure														closed); {Clear transfer lines prior to de-coupling [E39]}. {Clear spills immediately [C&H13]}.
SU3	2 - Use in closed process, no likelihood of exposure	0.5	5-25%			0.30	1.371	5-25%			0.82	0.10	0.49	0.59	Limit the substance content in the product to 25% [OC18]. {Ensure the system is closed}; {Clear transfer lines prior to de-coupling [E39]}. {Clear spills immediately [C&H13]}.
SU22	2 - Use in closed process, no likelihood of exposure	1				1.00	1.371		gloves		0.27	0.33	0.16	0.50	Wear suitable gloves tested to EN374 [PPE15]. {Ensure the system is closed} {Clear transfer lines prior to de-coupling [E39]}. {Clear spills immediately

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																[C&H13]}.
SU22	2 - Use in closed process, no likelihood of	1		5-25%			0.60	1.371	5-25%			0.82	0.20	0.49	0.69	Limit the substance content in the product to 25% [OC18].
	exposure															{Ensure the system is closed}; {Clear transfer lines prior to de-coupling [E39]}. {Clear spills immediately [C&H13]}.
SU3; SU22	closed batch	1					1.00	0.343				0.34	0.33	0.20	0.54	No specific measures identified [EI18].
	process (synthesis or formulation)															{Ensure the system is closed}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}.{Clear spills immediately [C&H13]}.
SU3; SU22		5	80				1.00	6.857		gloves-bas ic training		0.69	0.33	0.41	0.74	Ensure material transfers are under

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process		containment or
(synthesis)		extract
where		ventilation [E66];
opportunity		Provide extract
for		ventilation to
exposure		material transfer
arises		points and other
		openings
		[E82].Wear
		chemically
		resistant gloves
		(tested to
		EN374) in
		combination with
		'basic' employee
		training [PPE16].
		{Use bulk or
		semi-bulk
		handling
		systems [E43]};
		{Drain down and
		flush system
		prior to
		equipment
		break-in or
		maintenance
		[E55]}. {Clean
		equipment and
		the work area
		every day
		[C&H3]}; {Clear
		spills
		immediately
		[C&H13]}.

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SU22 batch and cother process (synthesis) where opportunity for exposure arises																
other process (synthesis) where opportunity for exposure arises I training training content in the product to 25% (CC18). Avoid carrying out opportunity for exposure arises I training process (lested to ENS74) in combination with basic employee training [PE16]. Use bulk or semi-bulk handling systems [E43]; (Discharge sacks via suitable vented charge chure [E44]); (Dirain down and flush system prior to equipment and flush system prior to equipment break-in or maintenance [E55], (Clean equipment and the work area every day	SU3;	4 - Use in	5	5-25%	1-4		1.80	6.857	5-25%	gloves-bas		0.41	0.60	0.24	0.84	Limit the
process (synthesis) where opportunity for exposure arises (got18) (got18)	SU22	batch and			hours					ic						substance
(synthesis) where opportunity for exposure arises (CC18). Avoid carrying out opperation for more than 4 hours (OC12): Wear chemically resistant gloves (rested to EN374) in combination with 'basic' employee training (PPE16). (Use bulk or sami-bulk handling systems (E43)); (Discharges aacks via suitable vented charge chute (E44)); (Drain down and flush system prior to equipment and the work area equipment and the work area every day		other								training						content in the
where opportunity for response arises		process														product to 25%
opportunity for exposure arises arises arises opportunity for exposure arises (ested to exposure training in perecipies training in perecip		(synthesis)														[OC18]. Avoid
for exposure arises more than 4 hours (CC12); Wear chemically resistant gloves (tested to EN374) in combination with basic employee training (PPE16). [Use bulk or semi-bulk handling systems [E43]); (Discharge sacks via suitable vented charge chute [E44]); (Drair down and flush system prior to equipment break-in or maintenance [E65]). (Clean equipment and the work area every day		where														carrying out
exposure arises hours [OC12]: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. {Use bulk or semi-bulk handling systems [E43]); {Discharge sacks via suitable vented charge chute [E44]); {Drain down and flush system prior to equipment break-in or maintenance [E55]). {Clean equipment and the work area every day		opportunity														operation for
arises Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. {Use bulk or semi-bulk handling systems [E43]]; {Discharge sacks via suitable vented charge chute [E44]); {Drain down and flush system prior to equipment break-in or maintenance [E55]. {Clean equipment and the work area every day		for														more than 4
resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. {Use bulk or semi-bulk handling systems [E43]]; {Discharge sacks via suitable vented charge chute (E44]); {Orain down and flush system prior to equipment break-in or maintenance [E55]. (Clean equipment and the work area every day		exposure														hours [OC12];
(tested to EN374) in combination with basic employee training [PPE16]. {Use bulk or semi-bulk handling systems [E43]]; {Discharge sacks via suitable vented charge chute [E44]]; {Drain down and flush system prior to equipment break-in or maintenance [E55]]; {Clean equipment and the work area every day		arises														Wear chemically
EN374) in combination with 'basic' employee training [PPE16]. (Use bulk or semi-bulk handling systems [E43]); (Discharge sacks via suitable vented charge chute [E44]); (Drain down and flush system prior to equipment break-in or maintenance [E55]). (Clean equipment and the work area every day																resistant gloves
combination with 'basic' employee training (PPE16). (Use bulk or semi-bulk handling systems [E43]); (Discharge sacks via suitable vented charge chute [E44]); (Drain down and flush system prior to equipment break-in or maintenance [E55]), (Clean equipment and the work area every day																(tested to
'basic' employee training [PPE16]. (Use bulk or semi-bulk handling systems [E43]); (Discharge sacks via suitable vented charge chute [E44]); (Drain down and flush system prior to equipment break-in or maintenance [E55]. (Clean equipment and the work area every day																EN374) in
training [PPE16]. {Use bulk or semi-bulk handling systems [E43]); {Discharge sacks via suitable vented charge chute [E44]); {Drain down and flush system prior to equipment break-in or maintenance [E55]). {Clean equipment and the work area every day																combination with
{Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																'basic' employee
semi-bulk handling systems [E43]); (Discharge sacks via suitable vented charge chute [E44]); (Drain down and flush system prior to equipment break-in or maintenance [E55]). {Clean equipment and the work area every day																training [PPE16].
semi-bulk handling systems [E43]); (Discharge sacks via suitable vented charge chute [E44]); (Drain down and flush system prior to equipment break-in or maintenance [E55]). {Clean equipment and the work area every day																
handling systems [E43]); {Discharge sacks via suitable vented charge chute [E44]]; {Drain down and flush system prior to equipment break-in or maintenance [E55]]. {Clean equipment and the work area every day																{Use bulk or
systems [E43]]; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]]. {Clean equipment and the work area every day																semi-bulk
{Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																handling
via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																systems [E43]};
vented charge chute [E44]); {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																{Discharge sacks
chute [E44]); {Drain down and flush system prior to equipment break-in or maintenance [E55]]. {Clean equipment and the work area every day																via suitable
{Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																vented charge
{Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																chute [E44]};
prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																{Drain down and
equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day																flush system
break-in or maintenance [E55]}. {Clean equipment and the work area every day																prior to
maintenance [E55]}. {Clean equipment and the work area every day																equipment
[E55]}. {Clean equipment and the work area every day																break-in or
[E55]}. {Clean equipment and the work area every day																maintenance
equipment and the work area every day																
the work area every day																
																every day
																[C&H3]}; {Clear



													Ů,	roddolos Quii	
															spills immediately [C&H13]}.
SU3; SU22	batch and	5	1-5%			1.00	6.857	1-5%	gloves		0.27	0.33	0.16	0.50	Limit the substance content in the product to 5% [OC17]; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling
															systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance
															[E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.

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															Toddotos Quii	
SU3;	5 -Mixing	5	80				1.00	13.714	g	loves-spe		0.69	0.33	0.41	0.74	Ensure material
	or blending									cific						transfers are
SU22										training						under
	processes									· ·						containment or
	(multistage															extract
	and/or															ventilation [E66];
	significant															Provide extract
	contact)															ventilation to
																material transfer
																points and other
																openings [E82].
																Wear chemically
																resistant gloves
																(tested to
																EN374) in
																combination with
																specific activity
																training [PPE17].
																{Use bulk or
																semi-bulk
																handling
																systems [E43]};
																{Drain down and
																flush system
																prior to
																equipment
																break-in or
																maintenance
																[E55]}. {Clean
																equipment and
																the work area
																every day
																[C&H3]};
																{Clear spills
																immediately
<u> </u>		1	1		1											



															[C&H13]}.
SU3;	5 -Mixing or blending in batch processes (multistage and/or significant contact)	5	5-25%	1-4 hours		1.80	13.714	5-29	gloves-sp cific training		0.41	0.60	0.24	0.84	Limit the substance content in the product to 25% [OC18]. Avoid carrying out operation for more than 4 hours [OC12]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. {Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}.{Clean equipment and the work area



															every day [C&H3]]; {Clear spills immediately [C&H13]}.
SU3; SU22	or blending	5	1-5%			1.00	13.714	1-5%	gloves		0.55	0.33	0.33	0.66	[C&H13]}. Limit the substance content in the product to 5% [OC17]; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}.{Clean equipment and the work area every day [C&H3]}; Clear
															spills immediately [C&H13]}.



SU3;	8a	5	80				1.00	13.714		gloves-spe		0.69	0.33	0.41	0.74	Ensure material
	-Transfer of									cific						transfers are
SU22	chemicals									training						under
	from/to															containment or
	vessels/															extract
	large															ventilation [E66];
	containers															Provide extract
	at non															ventilation to
	dedicated															material transfer
	facilities															points and other
																openings [E82];.
																Wear chemically
																resistant gloves
																(tested to
																EN374) in
																combination with
																specific activity
																training [PPE17];
																{Use bulk or
																semi-bulk
																handling
																systems [E43]};
																{Drain down and
																flush system
																prior to
																equipment
																break-in or
																maintenance
																[E55]}; {Clean
																equipment and
																the work area
																every day
																[C&H3]}; {Clear
																spills
																immediately
]]											miniculately



													•		
															[C&H13]}.
SU3; SU22	8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	5	5-25%	1-4 hours		1.80	13.714	5-25%	gloves-spe cific training		0.41	0.60	0.24	0.84	Limit the substance content in the product to 25% [OC18]. Avoid carrying out operation for more than 4 hours [OC12]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. {Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]};
															vented charge
															equipment break-in or maintenance [E55]}; {Clean equipment and the work area
															every day

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	1	1														
																[C&H3]]; {Clear spills immediately
																[C&H13]}.
SU3; SU22	8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	5		1-5%			1.00	13.714	1-5%	gloves		0.55	0.33	0.33	0.66	Limit the substance content in the product to 5% [OC17]; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk
																handling systems [E43]}; {Discharge sacks via suitable
																vented charge chute [E44]); {Drain down and
																flush system prior to
																equipment break-in or
																maintenance [E55]}.{Clean
																equipment and the work area
																every day [C&H3]]; Clear
																spills immediately
															<u> </u>	[C&H13]}.
SU3;	8b	5	80				1.00	6.857		gloves-bas		0.69	0.33	0.41	0.74	Ensure material

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	-Transfer of						ic training				transfers are
SU22	chemicals										under
	from/to										containment or
	vessels/										extract
	large										ventilation [E66];
	containers										Provide extract
	at										ventilation to
	dedicated										material transfer
	facilities										points and other
											openings [E82].
											Wear chemically
											resistant gloves
											(tested to
											EN374) in
											combination with
											'basic' employee
											training [PPE16].
											{Use bulk or
											semi-bulk
											handling
											systems [E43]};
											{Drain down and
											flush system
											prior to
											equipment
											break-in or
											maintenance
											[E55]}; {Clean
											equipment and
											the work area
											every day
											[C&H3]}; {Clear
											spills
											immediately
											[C&H13]}.

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SU3;	8b	5	5-25%	1-4		1.80	6.857	5-	25%	gloves-bas		0.41	0.60	0.24	0.84	Limit the
	-Transfer of			hours						ic training						substance
SU22	chemicals															content in the
	from/to															product to 25%
	vessels/															[OC18]. Avoid
	large															carrying out
	containers															operation for
	at															more than 4
	dedicated															hours [OC12;];
	facilities															Wear chemically
																resistant gloves
																(tested to
																EN374) in
																combination with
																'basic' employee
																training [PPE16].
																{Use bulk or
																semi-bulk
																handling
																systems [E43]};
																{Discharge sacks
																via suitable
																vented charge
																chute [E44]};
																(Drain down and
																flush system
																prior to
																equipment
																break-in or
																maintenance
																[E55]}; {Clean
																equipment and
																the work area
																every day
						 					 					[C&H3]}; {Clear



													J.ogus /	i roddotos Qui	
															spills immediately [C&H13]}.
SU3; SU22	8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	5	1-5%			1.00	6.857	1-5%	gloves		0.27	0.33	0.16	0.50	Limit the substance content in the product to 5% [OC17]; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately

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SU3;	9 -Transfer	5	80				1.00	6.857		gloves-bas		0.69	0.33	0.41	0.74	Ensure material
	of									ic training						transfers are
SU22	chemicals															under
	into small															containment or
	containers															extract
	(dedicated															ventilation [E66];
	filling line)															Provide extract
	,															ventilation to
																material transfer
																points and other
																openings [E82];
																Wear chemically
																resistant gloves
																(tested to
																EN374) in
																combination with
																'basic' employee
																training [PPE16].
																31 31
																{Use bulk or
																semi-bulk
																handling
																systems [E43]};
																{Drain down and
																flush system
																prior to
																equipment
																break-in or
																maintenance
																[E55]}; {Clean
																equipment and
																the work area
																every day
																[C&H3]}; {Clear
																spills
																immediately
<u> </u>		1	1	l	l	ı				J						



														i roddotos dali	
															[C&H13]}.
SU3	9 -Transfer	5	5-25%	1-4		1.80	6.857	5-25%	gloves-bas		0.41	0.60	0.24	0.84	Limit the
SU22	of			hours					ic training						substance
	chemicals														content in the
	into small														product to 25%
	containers														[OC18]. Avoid
	(dedicated														carrying out
	filling line)														operation for
															more than 4
															hours [OC12];
															Wear chemically
															resistant gloves
															(tested to EN374) in
															combination with
															'basic' employee
															training [PPE16].
															01
															{Use bulk or
															semi-bulk
															handling
															systems [E43]};
															{Discharge sacks
															via suitable
															vented charge
															chute [E44]};
															{Drain down and
															flush system

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													5,		
															prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU3 SU22	9 -Transfer of chemicals into small containers (dedicated filling line)	5	1-5%			1.00	6.857	1-5%	gloves		0.27	0.33	0.16	0.50	Limit the substance content in the product to 5% [OC17]; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge
															chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean



_	T	1	1	1		1		r	ı	T	ı ı	 				
SU3	PROC13: General exposures (open systems)	1					1.00	13.714		Gloves- specific training		0.69	0.33	0.41	0.74	equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}. Wear chemical resistant gloves (tested to EN374) in combination with
	[CS16]; Dipping, immersion and pouring [CS4].															specific activity training [PPE17] {Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU22	13. General exposures (open systems) [CS16]; Dipping, immersion and pouring [CS4].	5	80				1.00	13.714		gloves-spe cific training		0.69	0.33	0.41	0.74	Ensure material transfers are under containment or extract ventilation [E66]; Provide extract ventilation to material transfer points and other openings [E82]. Wear chemically resistant gloves



	T			-	,	7	•				1	 					
																	(tested to EN374) in combination with specific activity training [PPE17]. {Use bulk or semi-bulk handling systems [E43]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU22	13.: General exposures (open systems) [CS16]; Dipping, immersion and pouring [CS4].	5	5-25%	hours				1.80	13.714	5-25%	gloves-spe cific training		0.41	0.60	0.24	0.84	Limit the substance content in the product to 25% [OC18]. Avoid carrying out operation for more than 4 hours [OC12]; Wear chemically resistant gloves (tested to

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CLICO			1.50(1.00	10.714	1.50			0.55			0.00	EN374) in combination with specific activity training [PPE17]. {Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}.{Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU22	13.: General exposures (open systems) [CS16]; Dipping, immersion and	5	1-5%			1.00	13.714	1-5%	gloves		0.55	0.33	0.33	0.66	Limit the substance content in the product to 5% [OC17]; Wear suitable gloves tested to EN374 [PPE15].



_			-												
	pouring														{Use bulk or
	[CS4].														semi-bulk
															handling
															systems [E43]};
															{Discharge sacks
															via suitable
															vented charge
															chute [E44]};
															{Drain down and
															flush system
															prior to
															equipment
															break-in or
															maintenance
															[E55]}.{Clean
															equipment and
															the work area
															every day
															[C&H3]}; Clear
															spills
															immediately
															[C&H13]}.
SU3	14 -	1				1.00	3.429		gloves		0.69	0.33	0.41	0.74	Wear suitable
	Production								J						gloves tested to
	of														EN374 [PPE15].
	preparation														,
	s or articles														{Clean
	by														equipment and
	tabletting,														the work area
	compressi														every day
	on,														[C&H3]}; {Clear
	extrusion,														spills
	pelletisatio														immediately
	n														[C&H13]}.
	••														[00.110]].



SU3	14 - Production of preparation s or articles by tabletting, compressi on, extrusion, pelletisatio n	1	1-5%	% 			0.20	3.429	1-5%			0.69	0.07	0.41	0.47	Limit the substance content in the product to 5% [OC17]. {Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU22	14 - Production of preparation s or articles by tabletting, compressi on, extrusion, pelletisatio n	5			0.25	FFP1 (APF=4)	1.25	3.429		gloves		0.69	0.42	0.41	0.82	Wear suitable gloves tested to EN374 [PPE15]. Wear a disposable dust mask FFP1 (APF=4) or better {Clean equipment and the work area every day
SU22	14 -	5	5.25	9/ 1.4			1.80	3.429	5-25%	gloves		0.41	0.60	0.24	0.84	[C&H3]]; {Clear spills immediately [C&H13]]. {Avoid carrying out operation for more than 4 hours [OC12]}.
3022	14 -	5	5-25	% 1-4			1.80	3.429	ე-∠ე%	gioves		0.41	0.00	0.24	υ.δ4	Littiit tite

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	Production			h	nours											substance
	of															content in the
	preparation															product to 25%
	s or articles															[OC18]. Avoid
	by															carrying out
	tabletting,															operation for
	compressi															more than 4
	on,															hours [OC12];
	extrusion,															Wear suitable
	pelletisatio															gloves tested to
	n															EN374 [PPE15 ;
																{Clean
																equipment and
																the work area
																every day
																[C&H3]}; {Clear
																spills
																immediately
																[C&H13]}.
SU22	14 -	5	1-	-5%				1.00	3.429	1-5%		0.69	0.33	0.41	0.74	Limit the
	Production															substance
	of															content in the
	preparation															product to 5%
	s or articles															[OC17].
	by															
	tabletting,															{Clean
	compressi															equipment and
	on,															the work area
	extrusion,															every day
	pelletisatio															[C&H3]} ;
	n															{Clear spills
																immediately
																[C&H13]}.
							<u> </u>									r

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SU3; SU22	15 - Use of laboratory reagents in small scale laboratorie s	0.5				0.50	0.343				0.34	0.17	0.20	0.37	No specific measures identified [EI18].
SU3; SU22	19 - Hand-mixin g with intimate contact (only PPE available	5	1-5%	15 min-1 hour		0.20	141.43	1-5%	gloves-spe cific training		1.41	0.07	0.84	0.91	Limit the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 1 hour [OC11]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. {Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}; {Stay upwind/keep distance from source [EI22]}.



6 Overview of the general exposure assessment (EcetocECETOC Tra model) by process category for substance NaSCN as a solid formulation (high dustiness; ≤ 25%).

plication	Use Descriptor			ı	nhalatoı	ry expos	sure				Derma	al exposure		Char	Risk acteriz	ation	Risk Management Measures (RMMs)
Life Cycle Stage / Area of Application	Process Category	TRA Predicted Exposure -(mg/m3) - no modifiers	TRA LEV: efficiency (%)	TRA concentration factor	TRA duration factor	TRA RPE factor	Extra exposure modifier: [optional]	Free text - comment to clarify additional modifier (inhalation)	Predicted Exposure - (mg/m3) - modified	TRA Predicted Dermal exposure (mg/kg/d) - no	TRA concentration factor	PPE factor	Predicted Dermal Exposure	RCR (inhalation)	RCR (dermal)	RCR (all routes)	RMMs for communication - Consolidate into GES or e-SDS REACH ADVISED: phrase [RMM code] Recommended: {phrase [RMM code].}
SU3	1 - Use in closed process, no likelihood of exposure	0.01							0.01	0.343			0.34	0.00	0.20	0.21	No specific measures identified [EI18]. {Ensure the system is closed} {Drain down and flush system prior to equipment break-in or maintenance [E55]}.
SU22	1 - Use in closed process, no likelihood of exposure	0.1							0.10	0.343			0.34	0.03	0.20	0.24	No specific measures identified [EI18]. {Ensure the system is closed} {Drain down and flush system prior to equipment break-in or maintenance [E55]}.
SU3	2 - Use in closed process, no likelihood of exposure	1							1.00	1.371		gloves	0.27	0.33	0.16	0.50	Wear suitable gloves tested to EN374 [PPE15]. {Handle substance within a closed system [E47]}. {Drain

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_														
														down and flush system prior
														to equipment break-in or
														maintenance [E55]}.; {Clear
														spills immediately [C&H13]}.
SU3	2 - Use in	1	5-25%			0.60	1.371	5-25%		0.82	0.20	0.49	0.69	Limit the substance content
	closed													in the product to 25%
	process, no													[OC18].
	likelihood of													
	exposure													{Handle substance within a
														closed system [E47]}. {Drain
														down and flush system prior
														to equipment break-in or
														maintenance [E55]}; {Clear
														spills immediately [C&H13]}.
SU22	2 - Use in	5	5-25%	1-4		1.80	1.371	5-25%	gloves	0.16	0.60	0.10	0.70	Limit the substance content
	closed			hours										in the product to 25%
	process, no													[OC18]. Avoid carrying out
	likelihood of													operation for more than 4
	exposure													hours [OC12]; Wear suitable
														gloves tested to EN374
														[PPE15].
														{Handle substance within a
														closed system [E47]}.
														(Drain down and flush
														system prior to equipment
														break-in or maintenance
														[E55]}; {Clear spills
														immediately [C&H13]}.
SU22	2 - Use in	5	1-5%			1.00	1.371	1-5%		0.27	0.33	0.16	0.50	Limit the substance content
	closed													in the product to 5% [OC17];
	process, no													
	likelihood of													{Ensure the system is
	exposure													closed}; {Drain down and
														flush system prior to
														equipment break-in or



													maintenance [E55]}; {Clear
													spills immediately [C&H13]}.
SU3	3 - Use in	1				1.00	0.343		0.34	0.33	0.20	0.54	No specific measures
	closed batch												identified [EI18].
	process												
	(synthesis or												{Ensure the system is
	1 1												
	formulation)												closed} {Drain down and
													flush system prior to
													equipment break-in or
													maintenance [E55]}; {Clear
													spills immediately [C&H13]}.
SU22	3 - Use in	5	5-25%	1-4		1.80	0.343	5-25%	0.21	0.60	0.12	0.72	Limit the substance content
	closed batch			hours									in the product to 25%
	process												[OC18]. Avoid carrying out
	(synthesis or												operation for more than 4
	formulation)												hours [OC12];
	ioimalation)												110013 [0012],
													{Ensure the system is
													closed} {Drain down and
													flush system prior to
													•
													equipment break-in or
													maintenance [E55]}; {Clear
													spills immediately [C&H13]}.
SU22	3 - Use in	5	1-5%			1.00	0.343	1-5%	0.07	0.33	0.04	0.37	Limit the substance content
	closed batch												in the product to 5% [OC17];
	process												
	(synthesis or												{Ensure the system is
	formulation)												closed} {Drain down and
	· · · · · · · · · · · · · · · · · · ·												flush system prior to
													equipment break-in or
													maintenance [E55]}; {Clear
													spills immediately [C&H13]}.



batch and other process (synthesis) where opportunity for exposure arises (Synthesis) where opportunity for exposure transfer point openings [E extremely properties] openings [E chemically reference openings] (Ites to Et combination employee transfers) (Ites bulk or handling system prior break-in or reference openings] (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break-in or reference openings) (Ites bulk or handling system prior break	
other process (synthesis) where opportunity for exposure arises (Sential transfer are containment ventilation [Exertact ventilation	stance content
process (synthesis) where opportunity for exposure arises transfers are containment ventilation [E extract venti transfer poir openings [E chemically r (tested to Ef combination employee tra {Use bulk or handling sys {Drain down system prior break-in or r [E55]}. {Clea and the worl [C&H3]}. {Cl	t to 25%
(synthesis) where opportunity for exposure arises (synthesis) where opportunity for exposure arises (tested to Et combination employee tr (Use bulk or handling sys {Drain down system prior break-in or r [E55]}. {Clet and the worl [C&H3]}. {Cl.	ure material
where opportunity for exposure arises where opportunity for exposure arises (tested to Efficient of the combination of the analysis of the combination of the analysis of th	under
opportunity for exposure arises arises Extract vention transfer point openings [Exchemically recombination of the properties of the prop	or extract
for exposure arises transfer poir openings [Eschemically right (tested to Et combination employee transfer) employee transfer poir openings [Figure 1] to Et al. (Use bulk or handling system prior break-in or right [E55]). {Clear and the world [C&H3]}.	66]. Provide
arises openings [E chemically right (tested to El combination employee transported by the chemically right (tested to El combination employee transported by the chemically right (tested to El combination employee transported by the combination e	ation to material
chemically right (tested to Et combination employee transported by Et al. (Use bulk or handling system prior break-in or right). (Cetal and the world [C&H3]}. {Cletal and the world [C&H3]}. {Cletal and the world combined by Et al. (Cetal and the	ts and other
(tested to Et combination employee transported by the combination employee transported	32].Wear
Combination employee transfer of the following system prior break-in or response to the following system pri	sistant gloves
employee tra {Use bulk or handling syst {Drain down system prior break-in or r [E55]}. {Cleat and the work [C&H3]}. {Cl	l374) in
{Use bulk or handling system prior break-in or r [E55]}. {Cleat and the worl [C&H3]}. {Cl.	with 'basic'
handling sys {Drain down system prior break-in or r [E55]}. {Clea and the worl [C&H3]}. {Cl	ining [PPE16].
handling sys {Drain down system prior break-in or r [E55]}. {Clea and the worl [C&H3]}. {Cl	
{Drain down system prior break-in or r [E55]}. {Clear and the worl [C&H3]}. {Cl	semi-bulk
system prior break-in or r [E55]}. {Clea and the worl [C&H3]}. {Cl	tems [E43]}.
break-in or r [E55]}. {Cleating and the world [C&H3]}. {Cl	and flush
[E55]]. {Clear and the world [C&H3]}. {Cl	to equipment
and the work [C&H3]}. {Cl	naintenance
[C&H3]}. {Cl	n equipment
	area every day
immediately	ear spills
	[C&H13]}.
SU3 4 - Use in 25 5-25% half 1.50 6.857 5-25% gloves-basic 0.41 0.50 0.24 0.74 Limit the sub	stance content
batch and mask training in the production	t to 25%
other	r chemically
process resistant glo	es (tested to
(synthesis) EN374) in co	mbination with
where 'basic' emplo	yee training
opportunity [PPE16].;	
for exposure Wear a resp	rator conforming
arises to EN140 wi	h Type
A/P2 filter of	r better [PPE29]
{Use bulk or	semi-bulk
handling sys	tems [E43]};



																{Discharge sacks via suitable
																vented charge chute [E44]};
																{Drain down and flush
																system prior to equipment
																break-in or maintenance
																[E55]}; {Clean equipment
																and the work area every day
																[C&H3]}; {Clear spills
																immediately [C&H13]}.
																{Avoid carrying out operation
																for more than 4 hours
																[OC12]}.
SU3	4 - Use in	25		1-5%	15			1.00	6.857	1-5%	gloves	0.27	0.33	0.16	0.50	Limit the substance content
	batch and				min-1											in the product to 5% [OC17].
	other				hour											Avoid carrying out operation
	process															for more than 1 hour [OC11];
	(synthesis)															Wear suitable gloves tested
	where															to EN374 [PPE15].
	opportunity															
	for exposure															{Use bulk or semi-bulk
	arises															handling systems [E43]};
																{Discharge sacks via suitable
																vented charge chute [E44]};
																{Drain down and flush
																system prior to equipment
																break-in or maintenance
																[E55]}; {Clean equipment
																and the work area every day
																[C&H3]}.; {Clear spills
																immediately [C&H13]}.
SU3	4 - Use in	25		1-5%	1-4	0.25	FFP1	0.75	6.857	1-5%	gloves	0.27	0.25	0.16	0.41	Limit the substance content
	batch and				hours		(APF=4)									in the product to 5% [OC17].
	other															Avoid carrying out operation
	process															for more than 4 hours
	(synthesis)															[OC12]; Wear a disposable
	where															dust mask FFP1 or better;
			1			1										



	opportunity														Wear suitable gloves tested
	for exposure														to EN374 [PPE15].
	arises														
															{Use bulk or semi-bulk
															handling systems [E43]};
															{Discharge sacks via suitable
															vented charge chute [E44]};
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}; {Clean equipment
															and the work area every day
															[C&H3]]; {Clear spills
															immediately [C&H13]}.
SU22	4 - Use in	50	5-25%	1-4	half		1.80	6.857	5-25%	gloves-basic	0.41	0.60	0.24	0.84	Limit the substance content
	batch and			hours	mask					training					in the product to 25%
	other														[OC18]. Avoid carrying out
	process														operation for more than 4
	(synthesis)														hours [OC12]; Wear
	where														chemically resistant gloves
	opportunity														(tested to EN374) in
	for exposure														combination with 'basic'
	arises														employee training [PPE16];
															Wear a respirator conforming
															to EN140 with Type
															A/P2 filter or better
															[PPE29];
															{Use bulk or semi-bulk
															handling systems [E43]};
															{Discharge sacks via suitable
															vented charge chute [E44]};
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}; {Clean equipment



															and the work area every day
															[C&H3]}; {Clear spills
															immediately [C&H13]}.
SU22	4 - Use in	50	1-5%	15			2.00	6.857	1-5%	gloves	0.27	0.67	0.16	0.83	Limit the substance content
	batch and			min-1											in the product to 5% [OC17];
	other			hour											Avoid carrying out operation
	process														for more than 1 hour [OC11];
	(synthesis)														Wear suitable gloves tested
	where														to EN374 [PPE15].
	opportunity														
	for exposure														{Use bulk or semi-bulk
	arises														handling systems [E43]};
															{Discharge sacks via suitable
															vented charge chute [E44]};
															(Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}; {Clean equipment
															and the work area every day
															[C&H3]}; {Clear spills
															immediately [C&H13]}.
SU22	4 - Use in	50	1-5%	1-4	0.25	FFP1	1.50	6.857	1-5%	gloves	0.27	0.50	0.16	0.66	Limit the substance content
	batch and			hours		(APF=4)									in the product to 5% [OC17;
	other														Avoid carrying out operation
	process														for more than 4 hours [OC12;
	(synthesis)														Wear suitable gloves tested
	where														to EN374 [PPE15]. Wear a
	opportunity														disposable dust mask FFP1
	for exposure														(APF=4) or better;
	arises														
															{Use bulk or semi-bulk
															handling systems [E43]);
															{Discharge sacks via suitable
															vented charge chute [E44]};
															(Drain down and flush
															system prior to equipment



	•														
															break-in or maintenance [E55]}; {Clean equipment and the work area every day
															[C&H3]]; {Clear spills immediately [C&H13]}.
SU3	5 -Mixing or blending in batch processes (multistage and/or significant contact)	25	90	5-25%			1.50	13.714	5-25%	gloves-specific training	0.41	0.50	0.24	0.74	Limit the substance content in the product to 25% [OC18]. Ensure material transfers are under containment or extract ventilation [E66]; Provide extract ventilation to material transfer points and other openings [E82]. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. {Use bulk or semi-bulk handling systems [E43]}. {Drain down and flush system prior to equipment
															break-in or maintenance [E55]}. {Clean equipment and the work area every day
															[C&H3]}. {Clear spills immediately [C&H13]}.
SU3	5 -Mixing or blending in batch processes (multistage	25		5-25%	half mask		1.50	13.714	5-25%	gloves-specific training	0.41	0.50	0.24	0.74	Limit the substance content in the product to 25% [OC18]. Wear chemically resistant gloves (tested to EN374) in combination with
	and/or														specific activity training

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	significant														[PPE17].;
	contact)														Wear a respirator conforming
															to EN140 with Type
															A/P2 filter or better [PPE29]
															{Use bulk or semi-bulk
															handling systems [E43]};
															{Discharge sacks via suitable
															vented charge chute [E44]};
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}; {Clear spills
															immediately [C&H13]}.
															{Avoid carrying out operation
															for more than 4 hours
															[OC12]}.
SU3	5 -Mixing or	25	1-5%	1-4	0.25	FFP1	0.75	13.714	1-5%	gloves	0.55	0.25	0.33	0.58	Limit the substance content
	blending in			hours		(APF=4)									in the product to 5% [OC17].
	batch														Avoid carrying out operation
	processes														for more than 4 hours
	(multistage														[OC12]; Wear a disposable
	and/or														dust mask FFP1 (APF1) or
	significant														better; Wear suitable gloves
	contact)														tested to EN374 [PPE15].
															{Use bulk or semi-bulk
															handling systems [E43]};
															{Discharge sacks via suitable
															vented charge chute [E44]};
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment



																and the work area every day
																[C&H3]}. {Clear spills
																immediately [C&H13]}.
SU22	5 -Mixing or	50	5-25%	1-4	half			1.80	13.714	5-25%	gloves-specific	0.41	0.60	0.24	0.84	Limit the substance content
	blending in			hours	mask						training					in the product to 25%
	batch															[OC18]. Avoid carrying out
	processes															operation for more than 4
	(multistage															hours [OC12]. Wear
	and/or															chemically resistant gloves
	significant															(tested to EN374) in
	contact)															combination with specific
																activity training [PPE17];
																Wear a respirator conforming
																to EN140 with Type
																A/P2 filter or better
																[PPE29];
																{Use bulk or semi-bulk
																handling systems [E43]};
																{Discharge sacks via suitable
																vented charge chute [E44]);
																{Drain down and flush
																system prior to equipment
																break-in or maintenance
																[E55]}. {Clean equipment
																and the work area every day
																[C&H3]]; {Clear spills
																immediately [C&H13]}.
SU22	5 -Mixing or	50	1-5%	15				2.00	13.714	1-5%	gloves-basic	0.27	0.67	0.16	0.83	Limit the substance content
	blending in			min-1							training					in the product to 5% [OC17].
	batch			hour												Avoid carrying out operation
	processes															for more than 1 hour [OC11];
	(multistage															Wear chemically resistant
	and/or															gloves (tested to EN374) in
	significant															combination with 'basic'
	contact)			l	1	1	1				İ	Ī	I	i		employee training [PPE16];



	1		1	ľ	T.	1		•		1							
																	{Use bulk or semi-bulk handling systems [E43]}; {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU22	5 -Mixing or blending in batch processes (multistage and/or significant contact)	50		1-5%	1-4 hours		0.25	FFP1 (APF=4)	1.50	13.714	1-5%	gloves	0.55	0.50	0.33	0.83	Limit the substance content in the product to 5% [OC17] .Avoid carrying out operation for more than 4 hours [OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15].
																	{Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.



SU3	8a -Transfer	50	90	5-25%	1-4		1.80	13.714	5-25%	gloves-specific	0.41	0.60	0.24	0.84	Limit the substance content
	of chemicals				hours					training					in the product to 25%
	from/to														[OC18]. Ensure material
	vessels/														transfers are under
	large														containment or extract
	containers at														ventilation [E66]. Provide
	non														extract ventilation to material
	dedicated														transfer points and other
	facilities														openings [E82]. Avoid
															carrying out operation for
															more than 4 hours [OC12];
															Wear chemically resistant
															gloves (tested to EN374) in
															combination with specific
															activity training [PPE17].
															{Use bulk or semi-bulk
															handling systems [E43]}.
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}. {Clear spills
															immediately [C&H13]}.
SU3	8a -Transfer	50	90	1-5%			1.80	13.714	5-25%	gloves-specific	0.41	0.60	0.24	0.84	Limit the substance content
	of chemicals									training					in the product to 25%
	from/to														[OC18]. Ensure material
	vessels/														transfers are under
	large														containment or extract
	containers at														ventilation [E66]. Provide
	non														extract ventilation to material
	dedicated														transfer points and other
	facilities														openings [E82]. Avoid
															carrying out operation for
															more than 4 hours [OC12];
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															Wear chemically resistant
															gloves (tested to EN374) in
															combination with specific
															activity training [PPE17].
															, , , ,
															{Use bulk or semi-bulk
															handling systems [E43]}.
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}. {Clear spills
															immediately [C&H13]}.
SU22	8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	50	5-25%	1-4 hours	half mask		1.80	13.714	5-25%	gloves-specific training	0.41	0.60	0.24	0.84	Limit the substance content in the product to 25% [OC18]. Avoid carrying out operation for more than 4 hours [OC12]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. Wear a respirator conforming
															to EN140 with Type



															A/P2 filter or better [PPE29]
															{Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}. {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU3; SU22	8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	50	80	1-5%			2.00	13.714	1-5%	gloves-basic training	0.27	0.67	0.16	0.83	Limit the substance content in the product to 5% [OC17]. Ensure material transfers are under containment or extract ventilation [E66]. Provide extract ventilation to material transfer points and other openings [E82]. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].
															{Use bulk or semi-bulk handling systems [E43]}. {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}; {Clear spills immediately [C&H13]}.
SU3;	8a -Transfer	50		1-5%	15		2.00	13.714	1-5%	gloves-basic	0.27	0.67	0.16	0.83	Limit the substance content



SU22 of chemicals rom/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer SU22 of chemicals form/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer SU22 of chemicals form/to device form/to																
vessels/ large containers at non dedicated facilities SU3; SB3 -Transfer SU22 formorb vessels/ large containers at non dedicated facilities SU3; SB4 -Transfer SU22 formorb vessels/ large containers at non dedicated facilities SU3; SB5 -Transfer SU22 formorb vessels/ large containers at non dedicated facilities SU3; SB4 -Transfer SU22 formorb vessels/ large containers at non dedicated facilities SU3; SB5 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB5 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB5 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB5 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB6 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB6 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB6 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large containers at non dedicated facilities SU3; SB7 -Transfer Vessels/ large CE44[]; CD4 -Transfer Vessels/ large CE44[]; CD4 -Transfer Vessels/ large CE44[]; CD4 -Transfer Vessels/ large CE44[]; CD7 -Transfer Vessels/ large CE44[]; CD7 -Transfer Vessels/ large CE44[]; CD7 -Transfer Vessels/ large CE45[]; CD4 -Transfer Vessels/ large Vessels/ large CE45[]; CD4 -Transfer Vessels/ large Vessels/	SU22	of chemicals			min-1						training					in the product to 5% [OC17].
large containers at non dedicated facilities SU3; 8a -Transfer of chemicals from/to vossels/ large containers at non dedicated facilities SU3; 1-5% 1-5% 1-5% 1-5% 1-5% 1-5% 1-5% 1-5%		from/to			hour											Avoid carrying out operation
containers at non dedicated facilities Combination with basic ampleyee training [PPE16]		vessels/														for more than 1 hour [OC11];
non dedicated facilities Su3; 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities Su3; 8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities Su3; Su3		large														Wear chemically resistant
dedicated facilities dedicated facilities dedicated facilities deficities dedicated facilities definition and facilities description		containers at														gloves (tested to EN374) in
facilities Cuse bulk or semi-bulk handling systems [E43]), (Discharge sacks via suitable vented charge chute [E44]), (Drain down and flush system prior to equipment break-in or maintenance [E55]), (Clean equipment and the work area every day [C&H3]), (Clear spills immediately (C&H3]), (APF=4) and the substance content in the product to 5% (CC17). Avoid carrying out operation for more than 4 hours (CC12); Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 (PPE15). (Use bulk or semi-bulk handling systems [E43]), (Discharge sacks via suitable vented charge chute [E44]); (Drain down and flush vented charge chute (E44]); (Drain down and flush system prior to equipment).		non														combination with 'basic'
SU3; 8a - Transfer 50 1-5% 1-4 hours 1-5% 1-		dedicated														employee training [PPE16];
handling systems [E43]]. (Discharge sacks via suitable vented charge chute [E44]). (Drain down and flush system prior to equipment break-in or maintenance [E55]). (Clear equipment and the work area every day [C3413]). (Clear spills immediately [C8413]). SU3; SU22 of chemicals from/to vessels/ large containers at non dedicated facilities SU3; SU3; SU3; SU3; SU3; SU3; SU3; SU3		facilities														
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SU3; 8a -Transfer 50 1-5% 1-4 hours 5U22 of chemicals from/to vessels/ large containers at non dedicated facilities 6U3 acidities 6U3 aciditie																handling systems [E43]}.
SU3; 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of themicals of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of themicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of themicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of themicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of themicals from/to thours from/to themicals from/to themicals from/to themicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of themicals from/to fro																{Discharge sacks via suitable
SU3; 8a -Transfer 50 1-5% 1-4 hours SU22 of chemicals from/to vessels/ large containers at non dedicated facilities SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for man than 4 hours SU22 of chemicals from/to vessels/ large containers at non dedicated facilities SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours SU3; lating the substance content in the substance content in the product to 5% [OC17]. Avoid carrying ou																vented charge chute [E44]}.
break-in or maintenance [E55]). (Clean equipment and the work area every day [C&H3]). (Clear spills immediately [C&H13]). (Clear spills immediately [C&H13]). (Clear spills immediately [C&H13]). (APF=4) for or more than 4 hours of a dedicated facilities from the product of the																{Drain down and flush
SU3; 8a -Transfer 50 1-5% 1-4 hours 0.25 FFP1 1.50 13.714 1-5% gloves 0.55 0.50 0.33 0.83 Limit the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}. [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}. [E55]}. {Clean equipment and the work area every day [C&H3]}. {Imit the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours [OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. [Use bulk or semi-bulk handling systems [E43]]. {Discharge sacks via suitable vented charge charge via suitable vented charge charge via suitable vented via suita																system prior to equipment
SU3; 8a -Transfer 50 1-5% 1-4 hours Of chemicals from/to vessels/ large containers at non dedicated facilities Of dedicated facilities Of the containers at non dedicated facilities Of the containers of the containers at non dedicated facilities Of the containers of the containers at non dedicated facilities Of the containers of the containers at non dedicated facilities Of the containers of the containe																break-in or maintenance
SU3; 8a -Transfer 50 1-5% 1-4 hours 0.25 FFP1 1.50 13.714 1-5% gloves 0.55 0.50 0.33 0.83 Limit the substance content in the product to 5% [CC17]. Avoid carrying out operation for more than 4 hours (CC12); Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. [Use bulk or semi-bulk handling systems [E43]]. {Drain down and flush system prior to equipment																[E55]}. {Clean equipment
SU3; 8a -Transfer SU22 of chemicals from/to vessels/ large containers at non dedicated facilities SU24 facilities SU25 FFP1 (APF=4) SU26 FFP1 (APF=4) SU27 FFP1 (APF=4) SU28 FFP1 (APF=4) SU29 FFP1 (and the work area every day
SU3; 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of chemicals from/to vessels/ large containers at non dedicated facilities SU3; 8a -Transfer of chemicals from/to vessels/ large solves large content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours [OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment}																[C&H3]}. {Clear spills
SU22 of chemicals from/to vessels/ large containers at non dedicated facilities Su22 Of chemicals from/to vessels/ large containers at non dedicated facilities OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15].																immediately [C&H13]}.
from/to vessels/ large containers at non dedicated facilities Avoid carrying out operation for more than 4 hours [OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment	SU3;	8a -Transfer	50	1-5%	1-4	0.25	FFP1	1.50	13.714	1-5%	gloves	0.55	0.50	0.33	0.83	Limit the substance content
vessels/ large containers at non non dedicated facilities for more than 4 hours [OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment	SU22	of chemicals			hours		(APF=4)									in the product to 5% [OC17].
large containers at non dedicated facilities [OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment		from/to														Avoid carrying out operation
containers at non dedicated facilities dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment		vessels/														for more than 4 hours
non dedicated facilities Detter; Wear suitable gloves tested to EN374 [PPE15]. Use bulk or semi-bulk handling systems [E43]}. Discharge sacks via suitable vented charge chute [E44]}; Drain down and flush system prior to equipment		large														[OC12]; Wear a disposable
dedicated facilities {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment		containers at														dust mask FFP1 (APF=4) or
facilities {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment		non														better; Wear suitable gloves
{Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment		dedicated														tested to EN374 [PPE15].
handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment		facilities														
{Discharge sacks via suitable vented charge chute [E44]}; {Drain down and flush system prior to equipment																{Use bulk or semi-bulk
vented charge chute [E44]}; {Drain down and flush system prior to equipment																handling systems [E43]}.
{Drain down and flush system prior to equipment																{Discharge sacks via suitable
system prior to equipment																vented charge chute [E44]);
																{Drain down and flush
break-in or maintenance																system prior to equipment
																break-in or maintenance
[E55]]. {Clean equipment																[E55]}. {Clean equipment



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															and the work area every day
															[C&H3]}; {Clear spills
															immediately [C&H13]}.
SU3	8a -Transfer	50		1-5%	half		1.00	13.714	1-5%	gloves	0.55	0.33	0.33	0.66	Limit the substance content
SU22	of chemicals				mask										in the product to 5% [OC17]
	from/to														Wear chemically resistant
	vessels/														gloves tested to EN374
	large														[PPE15]. Wear a respirator
	containers at														conforming to EN140 with
															Type A/P2 filter or better
	non														- '
	dedicated														[PPE29].
	facilities														
															{Use bulk or semi-bulk
															handling systems [E43]}.
															{Discharge sacks via suitable
															vented charge chute [E44]}.
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}. {Clear spills
															immediately [C&H13]}.
SU3	8b -Transfer	25	90	5-25%			1.50	6.857	5-25%	gloves-basic	0.41	0.50	0.24	0.74	Limit the substance content
	of chemicals	_0		0 20 / 0				0.00,	2 _0,0	training	J	0.00		J., .	in the product to 25%
	from/to									training					[OC18]. Ensure material
	vessels/														transfers are under
	large														containment or extract
	containers at														ventilation [E66]. Provide
	dedicated														extract ventilation to material



r			,												
	facilities														transfer points and other
															openings [E82].Wear
															chemically resistant gloves
															(tested to EN374) in
															combination with 'basic'
															employee training [PPE16].
															{Use bulk or semi-bulk
															handling systems [E43]}.
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}. {Clear spills
															immediately [C&H13]}.
SU3	8b -Transfer	25		5-25%	half		1.50	6.857	5-25%	gloves-basic	0.41	0.50	0.24	0.74	Limit the substance content
	of chemicals				mask					training					in the product to 25%
	from/to														[OC18]; Wear chemically
	vessels/														resistant gloves (tested to
	large														EN374) in combination with
	containers at														'basic' employee training
	dedicated														[PPE16].;
	facilities														Wear a respirator conforming
															to EN140 with Type
															A/P2 filter or better [PPE29]
															{Use bulk or semi-bulk
															handling systems [E43]};
															{Discharge sacks via suitable
															vented charge chute [E44]};
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}; {Clean equipment
															and the work area every day



															[C&H3]]; {Clear spills immediately [C&H13]}. {Avoid carrying out operation for more than 4 hours [OC12]}.
SU3	8b -Transfer	25	1-5%	15 			1.00	6.857	1-5%	gloves	0.27	0.33	0.16	0.50	Limit the substance content
	of chemicals from/to vessels/ large containers at dedicated			min-1 hour											in the product to 5% [OC17]. Avoid carrying out operation for more than 1 hour [OC11]; Wear suitable gloves tested to EN374 [PPE15].
	facilities														{Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}. {Drain down and flush
															system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills
SU3	8b -Transfer of chemicals from/to vessels/ large containers at dedicated	25	1-5%		0.25	FFP1 (APF=4)	1.25	6.857	1-5%	gloves	0.27	0.42	0.16	0.58	immediately [C&H13]}. Limit the substance content in the product to 5% [OC17]. Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15].
	facilities														{Use bulk or semi-bulk handling systems [E43]}.



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															{Discharge sacks via suitable
															vented charge chute [E44]}.
															(Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}. {Clear spills
															immediately [C&H13]}.
															{Avoid carrying out operation
															for more than 4 hours
															[OC12]}.
SU22	8b -Transfer	50	5-25%	1-4	half		1.80	6.857	5-25%	gloves-basic	0.41	0.60	0.24	0.84	Limit the substance content
	of chemicals			hours	mask					training					in the product to 25%
	from/to														[OC18]. Avoid carrying out
	vessels/														operation for more than 4
	large														hours [OC12]; Wear
	containers at														chemically resistant gloves
	dedicated														(tested to EN374) in
	facilities														combination with 'basic'
															employee training [PPE16].
															Wear a respirator conforming
															to EN140 with Type
															A/P2 filter or better
															[PPE29];
															{Use bulk or semi-bulk
															handling systems [E43]}.
															{Discharge sacks via suitable
															vented charge chute [E44]}.
															{Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}; {Clear spills



															y i roductos cuminos
															immediately [C&H13]}.
SU22	8b -Transfer of chemicals from/to vessels/ large containers at	50	1-5%	15 min-1 hour			2.00	6.857	1-5%	gloves	0.27	0.67	0.16	0.83	Limit the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 1 hour [OC11]; Wear suitable gloves tested to EN374 [PPE15].
	dedicated facilities														{Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}. {Drain down and flush system prior to equipment break-in or maintenance [E55]}. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU22	8b -Transfer of chemicals from/to vessels/ large containers at dedicated facilities	50	1-5%	1-4 hours	0.25	FFP1 (APF=4)	1.50	6.857	1-5%	gloves	0.27	0.50	0.16	0.66	Limit the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours [OC12]; Wear a disposable dust mask FFP1 (APF=4) or better; Wear suitable gloves tested to EN374 [PPE15]. {Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable
															vented charge chute [E44]}. {Drain down and flush system prior to equipment break-in or maintenance

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															[E55]}. {Clean equipment
															and the work area every day
															[C&H3]}. {Clear spills
															immediately [C&H13]}.
SU3	9 -Transfer of	20	90	5-25%			1.20	6.857	5-25%	gloves-basic	0.41	0.40	0.24	0.64	Limit the substance content
	chemicals									training					in the product to 25%
	into small														[OC18]. Ensure material
	containers														transfers are under
	(dedicated														containment or extract
	filling line)														ventilation [E66]; Provide
															extract ventilation to material
															transfer points and other
															openings [E82]. Wear
															chemically resistant gloves
															(tested to EN374) in
															combination with 'basic'
															employee training [PPE16].
															{Use bulk or semi-bulk
															handling systems [E43]}.
															(Drain down and flush
															system prior to equipment
															break-in or maintenance
															[E55]}.
SU3;	9 -Transfer of	20	80	5-25%			1.44	6.857	5-25%	gloves-basic	0.41	0.48	0.24	0.72	Limit the substance content
SU22	chemicals									training					in the product to 25%
	into small														[OC18]. Ensure material
	containers														transfers are under
	(dedicated														containment or extract
	filling line)														ventilation [E66]; Provide
															extract ventilation to material
															transfer points and other
															openings [E82]. Wear
															chemically resistant gloves
															(tested to EN374) in
															combination with 'basic'



															employee training [PPE16].
															{Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}. {Drain down and flush system prior to equipment break-in or maintenance [E55]}.
SU3	; 9 -Transfer of	20	5-25%	1-4	0.25	FFP1	1.80	6.857	5-25%	gloves-basic	0.41	0.60	0.24	0.84	Limit the substance content
SU2	<i>'</i>	20	3 23 /6	hours	0.23	(APF=4)	1.50	0.007	3-23%	training	0.41	0.00	0.24	5.04	in the product to 25% [OC18]. Avoid carrying out operation for more than 4 hours [OC12]; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16]. Wear a disposable dust mask FFP1 (APF=4) or better.
															{Use bulk or semi-bulk handling systems [E43]}. {Discharge sacks via suitable vented charge chute [E44]}. {Drain down and flush system prior to equipment break-in or maintenance [E55]}.



SU3;	9 -Transfer of	20	1-5%	1-4		2.40	6.857	1-5%	gloves-basic	0.14	0.80	0.08	0.88	Limit the substance content
SU22	chemicals			hours					training					in the product to 5% [OC17].
	into small													Avoid carrying out operation
	containers													for more than 4 hours
	(dedicated													[OC12]; Wear suitable gloves
	filling line)													tested to EN374 [PPE15].
														{Use bulk or semi-bulk
														handling systems [E43]}.
														{Discharge sacks via suitable
														vented charge chute [E44]}.
														{Drain down and flush
														system prior to equipment
														break-in or maintenance
														[E55]}.
SU3	13	5	5-25%	1-4		1.80	13.714	5-25%	gloves-	0.41	0.60	0.24	0.84	Limit the substance content
SU22	-Treatment of			hours					specific					in the product to 25%
	articles by								training					[OC18]. Avoid carrying out
	dipping and													operation for more than 4
	pouring													hours [OC12] Wear
														chemically resistant gloves
														(tested to EN374) in
														combination with specific
														activity training [PPE17].
														{Clean equipment and the
														work area every day [C&H3]}; {Clear spills
														immediately [C&H13]}.
SU3	13	5	1-5%			1.00	13.714	1-5%	gloves	0.55	0.33	0.33	0.66	Limit the substance content
SU22	-Treatment of	٦	1-5/6			1.00	10.714	1-5/6	gioves	0.55	0.00	0.00	0.00	in the product to 5% [OC17].
0022	articles by													Wear suitable gloves tested
	dipping and													to EN374 [PPE15].
	pouring													10 ±110/ 1 [1 1 ± 10].
	F 229													(Clean equipment and the
														work area every day
L]			1	<u> </u>	 1		<u> </u>	l .	l		1		



																[C&H3]}; {Clear spills immediately [C&H13]}.
SU3	14 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation	10	90	5-25%				0.60	3.429	5-25%	gloves	0.41	0.20	0.24	0.44	Limit the substance content in the product to 25% [OC18]. Ensure material transfers are under containment or extract ventilation [E66]. Provide extract ventilation to material transfer points and other openings [E82]. Wear suitable gloves tested to EN374 [PPE15].
																{Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU3	14 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation	10		5-25%	15 min-1 hour			1.20	3.429	5-25%	gloves	0.41	0.40	0.24	0.64	Limit the substance content in the product to 25% [OC18]Avoid carrying out operation for more than 1 hour [OC11]. Wear suitable gloves tested to EN374 [PPE15].
	Ponousauon															{Clean equipment and the work area every day [C&H3]}.{Clear spills immediately [C&H13]}.
SU3	14 - Production of preparations or articles by	10		5-25%	1-4 hours	0.25	FFP1 (APF=4)	0.90	3.429	5-25%	gloves	0.41	0.30	0.24	0.54	Limit the substance content in the product to 25% [OC18]. Avoid carrying out operation for more than 4

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															s y Froductos Califficos
	tabletting, compression, extrusion, pelletisation														hours [OC12]; Wear suitable gloves tested to EN374 [PPE15]. Wear a disposable dust mask FFP1 (APF=4) or better.
															{Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU3	14 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation	10	1-5%				2.00	3.429	1-5%	gloves	0.14	0.67	0.08	0.75	Limit the substance content in the product to 5% [OC17]. Wear suitable gloves tested to EN374 [PPE15]. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU22	14 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation	50	5-25%	1-4 hours	half mask		1.80	3.429	5-25%	gloves	0.41	0.60	0.24	0.84	Limit the substance content in the product to 25% [OC18]. Avoid carrying out operation for more than 4 hours [OC12]; Wear suitable gloves tested to EN374 [PPE15]. Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.



																s y Froductos Cuminoos
SU22	14 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation	50		1-5%	15 min-1 hour			2.00	3.429	1-5%	gloves	0.14	0.67	0.08	0.75	Limit the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 1 hour [OC11]; Wear suitable gloves tested to EN374 [PPE15]. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}.
SU3; SU22	15 - Use of laboratory reagents in small scale laboratories	5	80					1.00	0.343			0.34	0.33	0.20	0.54	Handle in a fume cupboard or under extract ventilation [E83].
SU3	19 - Hand-mixing with intimate contact (only PPE available	25		1-5%	1-4 hours	half mask		0.30	141.429	1-5%	gloves-specific training	1.41	0.10	0.84	0.94	Limit the substance content in the product to 5% [OC17]. Avoid carrying out operation for more than 4 hours [OC12]; Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]; Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17]. {Clean equipment and the work area every day [C&H3]}. {Clear spills immediately [C&H13]}. {Stay upwind/keep distance from source [EI22]}.



SU22	19 -	50	1-5%	15	half		0.20	141.429	1-5%	gloves-specific	1.41	0.07	0.84	0.91	Limit the substance content
	Hand-mixing			min-1	mask					training					in the product to 5% [OC17].
	with intimate			hour											Avoid carrying out operation
	contact (only														for more than 1 hour [OC11];
	PPE														Wear a respirator conforming
	available														to EN140 with Type A/P2
															filter or better [PPE29]; Wear
															chemically resistant gloves
															(tested to EN374) in
															combination with specific
															activity training [PPE17].
															(Clean equipment and the
															work area every day
															[C&H3]}. {Clear spills
															immediately [C&H13]}.
															{Stay upwind/keep distance
															from source [El22]}.

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Appendix 2. Environmental Exposure Estimation and Risk Characterization

Physical chemical parameters/assumptions common to all exposure scenarios

Property	value
Molecular weight (g/mol) SCN	58.08
Vapor pressure (Pa) (worst case; taken from NH ₄ SCN)	0.015
Water solubility (g/l) (worst case; taken from KSCN)	2300
Log Kow (worst case)	0.58
Chemical class for Koc QSAR	Non-hydrophobics (default QSAR)
STP	Use STP (fresh water and marine)
Biodegradability	Readily biodegradable

PNEC values used in all the exposure scenarios

PNEC	All exposure scenarios
PNEC for aquatic organisms (mg/l)	0.0954
PNEC for marine organisms (mg/l)	0.0095
PNEC for fresh-water sediment organisms (equilibrium partitioning) (mg.kgdwt-1)	0.543
PNEC for marine sediment organisms (equilibrium partitioning) (mg.kgdwt-1)	0.0543
PNEC for terrestrial organisms (equilibrium partitioning) (mg.kgdwt-1)	0.0527
PNEC for secondary poisoning of birds and mammals (mg/kg)	0.229
PNEC for micro-organisms in a STP (mg/l)	30

1 Environment ES 1: Manufacture of NaSCN

The following information is used to calculate PEC values:

Fraction of tonnage released to waste water	8.3E-4
Fraction of main local source	1
Emission days per year	365
Flow rate of the river (m ³ /day)	8.6E+7
Concentration in dry sewage sludge (mg/l)	0
Concentration in surface water during emission episode (mg/l)	7.28E-4

2 Environment ES 2: Distribution and Formulation

The following information is used to calculate PEC values:

Relevant tonnage for application (tonne/year)	15260
Fraction of tonnage released to air (default value for ERC 2)	0.025
Fraction of tonnage released to waste water (default value for ERC 2)	0.02
Fraction of main local source	0.002



3 Environment ES3: Industrial use in a synthesis and as an intermediate

The following information is used to calculate PEC values:

Relevant tonnage for application (tonne/year)	15260
Fraction of tonnage released to air (default value for ERC 6a)	0.05
Fraction of tonnage released to waste water (default value for ERC 6a)	0.02
Fraction of main local source	0.002
Emission days per year	300

4 Environment ES 4: Use in spraying formulations

The following information is used to calculate PEC values:

Relevant tonnage for application (tonne/year)	1110
Fraction of tonnage released to air (default value for electroplating)	1E-4
Fraction of tonnage released to waste water (default value for electroplating)	0.9
Fraction of tonnage released to industrial soil (default value for electroplating)	5E-3
Fraction of main local source	2E-03
Emission days per year	220

5 Environment ES 5: Use in non spraying formulations

The following information is used to calculate PEC values:

Relevant tonnage for application (tonne/year)	600
Fraction of tonnage released to air	0
Fraction of tonnage released to waste water (default value for ERC 8d)	0.99
Fraction released to industrial soil (default value for ERC 8d)	0.01
Fraction of main local source	0.002
Emission days per year	100

6 Environment ES 6: Use in formulated products in building and construction

The following information is used to calculate PEC values:

Relevant tonnage for application (tonne/year)	15260
Fraction of tonnage released to air (default value for spERC 8f.1a.v1)	0
Fraction of tonnage released to waste water (default value for spERC 8f.1a.v1)	0.01
Fraction of tonnage released to industrial soil (default value for spERC 8f.1a.v1)	0.037
Fraction of main local source	0.002
Emission days per year (industrial use)	220
Emission days per year (service life)	365

7 Environment ES 7: Use in laboratory settings

The following information is used to calculate PEC values:

The following information to dood to ediculate 1 20 values.	
Relevant tonnage for application (tonne/year)	75
Fraction of tonnage released to waste water (default value for ERC 8a)	1
Fraction of main local source	0.002
Emission days per year	20

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8 Local PEC values for all exposure scenarios

	ES1	ES2	ES3	ES4	ES5	ES6		ES7
	Production	Distribution/form	Intermediate/	Spraying	Non spraying	Building/construction		Lab settings
		ulation	synthesis	formulations	formulations			
						Ind. use	Service life	
PEC in surface water	9.23E-03	0.0153	0.0153	0.0938	0.0836	0.0129	0.0109	0.0556
(dissolved) (mg/l)								
PEC in seawater	Not relevant*	1.47E-3	1.47E-3	9.32E-3	8.3E-3	1.23E-3	2.88E-3	5.5E-3
(dissolved) (mg/l)								
PEC in air (total) (mg/m ³)	7.28E-10	3.08E-4	7.2E-10	2.36E-8	7.2E-10	7.2E-10	7.2E-10	7.2E-10
PEC in agricultural soil	6.65E-03	8.68E-3	8.63E-3	0.0403	0.0362	5.37E-3	4.57E-3	0.0226
(total) averaged over 30								
days (mg.kgdwt-1)								
PEC in agricultural soil	6.65E-03	6.77E-3	6.71E-3	0.0164	0.0151	4.07E-3	3.82E-3	9.33E-3
(total) averaged over 180								
days (mg.kgdwt-1)								
PEC in grassland (total)	6.65E-03	6.29E-3	6.17E-3	9.67E-3	9.21E-3	3.7E-3	3.61E-3	5.6E-3
averaged over 180 days								
(mg.kgdwt-1)								
PEC in pore water of	0.012	0.0139	0.0138	0.0336	0.031	8.34E-3	7.84E-3	0.0191
agricultural soils (mg/l)								
PEC in pore water of	0.012	0.0129	0.0127	0.0198	0.0189	7.59E-3	7.41E-3	0.0115
grassland (mg/l)								
PEC in groundwater	0.012	0.0139	0.0138	0.0336	0.031	8.34E-3	7.84E-3	0.0191
under agricultural soil								
(mg/l)								
PEC in sediment (total)	0.0526	0.019	0.019	0.116	0.103	0.016	0.0135	0.0689
(mg.kgdwt-1)								
PEC in seawater	Not relevant*	1.82E-3	1.82E-3	0.0115	0.0103	1.52E-3	3.58E-3	6.81E-3
sediment (total)								

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(mg.kgdwt-1)								
PEC in STP (mg/l)	1.16	0.0682	0.0682	0.853	0.751	0.0465	0.0267	0.474

^{*} The production site is far from the sea shore (Cologne, Germany) and therefore PEC values for the marine environment are not relevant.



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9 Regional PEC values based on production and use of thiocyanate.

Regional PEC s	All exposure scenarios
Regional PEC in surface water (dissolved) (mg/l)	8.51E-04
Regional PEC in seawater (dissolved) (mg/l)	7.9E-04
Regional PEC in air (total) (mg/m ³)	7.22E-10
Regional PEC in agricultural soil (total) (mg.kgdwt-1)	0.0159
Regional PEC in pore water of agricultural soils (mg/l)	0.0287
Regional PEC in natural soil (total) (mg.kgdwt-1)	6.65E-03
Regional PEC in industrial soil (total) (mg.kgdwt-1)	0.138
Regional PEC in sediment (total) (mg.kgdwt-1)	0.0431
Regional PEC in seawater sediment (total) (mg.kgdwt-1)	4.02E-03

10. Risk characterization ratios (environment)

	ES1	ES2	ES3	ES4	ES5	ES6	ES6	
	production	Distribution/formulation	Intermediate/	Spraying	Non .	Building/		Lab settings
			synthesis	formulations	spraying formulations	construction	construction	
						Ind. use	Service life	
RCR for the local fresh-water compartment	0.0909	0.118	0.167	0.676	0.528	0.0927	0.0849	0.135
RCR for the local marine-water compartment	23*	0.112	0.161	0.670	0.523	0.0874	0.150	0.13
RCR for the local soil compartment	5.44-E04	8.53E-04	1.19E-03	4.78E-03	3.74E-03	6.73E-04	6.15E-04	9.71E-04
RCR for the sewage treatment plant	0.438	1.373E-03	2.92E-03	0.0191	0.0144	5.71E-04	3.22E-04	1.93E-03

^{*} This is the only RCR > 1, but is not relevant, as the production site is not close to the sea.