

# Ficha de datos de seguridad

## ELIMINA GHIACCIO



Ficha de datos de seguridad del 1/10/2024, Revisión 9

### SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

#### 1.1. Identificador de producto

Identificación del preparado:

Nombre comercial: ELIMINA GHIACCIO

Código comercial: 8468

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

Uso recomendado:

Líquido descongelante.

Usos no recomendados:

Respetar estrictamente los usos recomendados.

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

Proveedor:

Arexons S.p.A.

via Antica di Cassano, 23, 20063

Cernusco sul Naviglio (MI), Italy

Arexons S.p.A.

Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

Persona competente responsable de la ficha de datos de seguridad:

arexons@arexons.it

#### 1.4. Teléfono de emergencia

Arexons S.p.A.

Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

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

### SECCIÓN 2. Identificación de los peligros

#### 2.1. Clasificación de la sustancia o de la mezcla

Criterios Reglamentación CE 1272/2008 (Clasificación, Etiquetado y Empacado):

⚠ Peligro, Aerosols 1, Aerosol extremadamente inflamable. Recipiente a presión: Puede reventar si se calienta.

⚠ Atención, Eye Irrit. 2, Provoca irritación ocular grave.

⚠ Atención, STOT SE 3, Puede provocar somnolencia o vértigo.

Efectos físico-químicos nocivos para la salud humana y para el medio ambiente:

Ningún otro riesgo

#### 2.2. Elementos de la etiqueta

Pictogramas de peligro:



Peligro

Indicaciones de peligro:

H222, H229 Aerosol extremadamente inflamable. Recipiente a presión: Puede reventar si se calienta.

H319 Provoca irritación ocular grave.

H336 Puede provocar somnolencia o vértigo.

Consejos de prudencia:

P101 Si se necesita consejo médico, tener a mano el envase o la etiqueta.

P102 Mantener fuera del alcance de los niños.

P103 Leer atentamente y seguir todas las instrucciones.

P210 Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de

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cualquier otra fuente de ignición. No fumar.

P211 No pulverizar sobre una llama abierta u otra fuente de ignición.

P251 No perforar ni quemar, incluso después de su uso.

P271 Utilizar únicamente en exteriores o en un lugar bien ventilado.

P405 Guardar bajo llave.

P410+P412 Proteger de la luz del sol. No exponer a temperaturas superiores a 50 °C/122°F.

P501 Eliminar el contenido/el recipiente en conformidad con la reglamentación.

Disposiciones especiales:

Ninguna

Contiene

Propan-2-ol; alcohol isopropílico; isopropanol

Disposiciones especiales de acuerdo con el anexo XVII del Reglamento REACH y sus posteriores modificaciones:

Ninguna

#### 2.3. Otros peligros

Ninguna sustancia PBT, mPmB o perturbador endocrino presente en concentración  $\geq 0.1\%$

Otros riesgos:

Ningún otro riesgo

## SECCIÓN 3. Composición/información sobre los componentes

#### 3.1. Sustancias

N.A.

#### 3.2. Mezclas

Componentes peligrosos según el Reglamento CLP y su correspondiente clasificación:

| Cantidad                  | Nombre                                         | Número de identif.                                                                             | Clasificación                                                                    |
|---------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| $\geq 80\%$ -<br>$< 90\%$ | Propan-2-ol; alcohol isopropílico; isopropanol | Número 603-117-00-0<br>Index:<br>CAS: 67-63-0<br>EC: 200-661-7<br>REACH No.: 01-2119457558-25  | ⚠ 2.6/2 Flam. Liq. 2 H225<br>⚠ 3.3/2 Eye Irrit. 2 H319<br>⚠ 3.8/3 STOT SE 3 H336 |
| $\geq 7\%$ -<br>$< 10\%$  | Etanodiol; etilenglicol                        | Número 603-027-00-1<br>Index:<br>CAS: 107-21-1<br>EC: 203-473-3<br>REACH No.: 01-2119456816-28 | ⚠ 3.1/4/Oral Acute Tox. 4 H302<br>⚠ 3.9/2 STOT RE 2 H373 (riñones) (oral)        |
| $\geq 3\%$ -<br>$< 5\%$   | Chilled liquid carbon dioxide                  | CAS: 124-38-9<br>EC: 204-696-9                                                                 | ⚠ 2.5/RL Press Gas (Ref. Liq.) H281                                              |

## SECCIÓN 4. Primeros auxilios

#### 4.1. Descripción de los primeros auxilios

En caso de contacto con la piel:

Quítese inmediatamente la ropa contaminada.

Lavar inmediatamente con abundante agua corriente y eventualmente jabón las zonas del cuerpo que han entrado en contacto con el producto, incluso si fuera sólo una sospecha.

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Lavar completamente el cuerpo (ducha o baño).

Quitarse de inmediato la indumentaria contaminada y eliminarla de manera segura.

En caso de contacto con la piel, lavar de inmediato con abundante agua y jabón.

En caso de contacto con los ojos:

En caso de contacto con los ojos, enjuagarlos con agua durante un tiempo adecuado y manteniendo los párpados abiertos, luego consultar de inmediato con un oftalmólogo.

Proteger el ojo ileso.

En caso de ingestión:

No provocar el vómito en ningún caso. CONSULTAR INMEDIATAMENTE AL MÉDICO.

En caso de inhalación:

Llevar al accidentado al aire libre y mantenerlo en reposo y abrigado.

4.2. Principales síntomas y efectos, agudos y retardados

Ninguno

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

En caso de accidente o malestar, consultar de inmediato con un médico (si es posible mostrarle las instrucciones de uso o la ficha de seguridad)

Tratamiento:

Ninguno

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## SECCIÓN 5. Medidas de lucha contra incendios

5.1. Medios de extinción

Medios de extinción apropiados:

Con anhídrido carbónico.

Con polvo.

Espuma para alcoholes

Agua vaporizada.

Medios de extinción no recomendados:

No usar chorros de agua directos

5.2. Peligros específicos derivados de la sustancia o la mezcla

No inhalar los gases producidos por la explosión y por la combustión.

La combustión produce humo pesado.

5.3. Recomendaciones para el personal de lucha contra incendios

Ropa normal para la lucha contra incendios, como un aparato respiratorio de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bombero (HO A29 o A30).

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## SECCIÓN 6. Medidas en caso de vertido accidental

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

Usar los dispositivos de protección individual.

Quitar toda fuente de encendido.

Llevar las personas a un lugar seguro.

Consultar las medidas de protección expuestas en los puntos 7 y 8.

6.2. Precauciones relativas al medio ambiente

Evitar que el producto penetre en el suelo/subsuelo. Evitar que penetre en aguas superficiales o en el alcantarillado.

Conservar el agua de lavado contaminada y eliminarla.

En caso de fuga de gas o penetración en cursos de agua, suelo o sistema de alcantarillado, informar a las autoridades responsables.

Material apropiado para la recogida: material absorbente, orgánico, arena

6.3. Métodos y material de contención y de limpieza

Limpieza:

Evitar la presencia de llamas y/o chispas cerca de la pérdida y productos de desecho. No fumar.

Contener

en caso de vertido de cantidades relevantes del producto y absorber cuando disperse. Contener

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el  
derrame de pequeñas cantidades de producto con tierra, arena, sepiolita, trapos u otro absorbente inerte.  
Recuperar con paletas después de la absorción de disolvente y transferir en contenedores adecuados.  
Desechar los residuos según la normativa vigente.

- 6.4. Referencia a otras secciones  
Véanse también los apartados 8 y 13.

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## SECCIÓN 7. Manipulación y almacenamiento

- 7.1. Precauciones para una manipulación segura  
Evitar el contacto con la piel y los ojos, la inhalación de vapores y vahos.  
No utilizar contenedores vacíos que no hayan sido previamente limpiados.  
Antes de realizar las operaciones de transferencia, asegurarse de que en los contenedores no haya materiales residuos incompatibles.  
Remitirse también al apartado 8 para los dispositivos de protección recomendados.
- La indumentaria contaminada debe ser sustituida antes de acceder a las áreas de almuerzo.  
No comer ni beber durante el trabajo.
- 7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades  
Conservar solo en el recipiente original.  
Debe almacenarse a temperaturas inferiores a 50 °C. Manténgase alejado de llamas libres y fuentes de calor. Evite la exposición directa al sol.  
Manténgase alejado de llamas libres, chispas y fuentes de calor. Evite la exposición directa al sol.  
Mantener alejado de comidas, bebidas y piensos.  
Ninguna en particular.  
Indicaciones para los locales:  
Frescos y adecuadamente aireados.
- 7.3. Usos específicos finales  
Ningún uso particular

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## SECCIÓN 8. Controles de exposición/protección individual

- 8.1. Parámetros de control  
Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0  
20101.11 - TWA: 983 mg/m<sup>3</sup>, 400 ppm  
20101.12 - TWA: 492 mg/m<sup>3</sup>, 200 ppm  
ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notas: A4, BEI - Eye and URT irr, CNS impair  
Etanodiol; etilenglicol - CAS: 107-21-1  
UE - TWA(8h): 52 mg/m<sup>3</sup>, 20 ppm - STEL: 104 mg/m<sup>3</sup>, 40 ppm - Notas: Skin  
ACGIH - STEL: 10 mg/m<sup>3</sup> - Notas: (I, H), A4 - URT irr  
Chilled liquid carbon dioxide - CAS: 124-38-9  
UE - TWA(8h): 9000 mg/m<sup>3</sup>, 5000 ppm  
ACGIH - TWA(8h): 5000 ppm - STEL: 30000 ppm - Notas: Asphyxia
- Valores límites de exposición DNEL  
Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0  
Trabajador profesional: 888 mg/kg - Consumidor: 319 mg/kg - Exposición: Dérmica humana - Frecuencia: A largo plazo (repetida)  
Trabajador profesional: 500 mg/m<sup>3</sup> - Consumidor: 89 mg/m<sup>3</sup> - Exposición: Por inhalación humana - Frecuencia: A largo plazo (repetida)  
Consumidor: 26 mg/kg - Exposición: Oral humana - Frecuencia: A largo plazo (repetida)  
Etanodiol; etilenglicol - CAS: 107-21-1  
Trabajador profesional: 35 mg/m<sup>3</sup> - Consumidor: 7 mg/m<sup>3</sup> - Exposición: Por inhalación humana  
Trabajador profesional: 106 mg/kg - Consumidor: 53 mg/kg - Exposición: Dérmica humana

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#### Valores límites de exposición PNEC

Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0

Objetivo: agua dulce - Valor: 140.9 mg/l

Objetivo: agua dulce - Valor: 140.9 mg/l

Objetivo: Sedimentos de agua dulce - Valor: 552 mg/l

Objetivo: Suelo (agricultura) - Valor: 28 mg/kg

Objetivo: Microorganismos en aguas residuales - Valor: 2251 mg/l

Etanodiol; etilenglicol - CAS: 107-21-1

Objetivo: agua dulce - Valor: 10 mg/l

Objetivo: Agua marina - Valor: 1 mg/l

Objetivo: Sedimentos de agua dulce - Valor: 37 mg/kg

Objetivo: Suelo (agricultura) - Valor: 1.53 mg/kg

#### 8.2. Controles de la exposición

Protección de los ojos:

Gafas con protección lateral.

Cumple con la norma EN 166

Protección de la piel:

ropa protectora

Protección de las manos:

Guantes de nitrilo o de Viton.

Conformes EN 374.

Grosor: Puño 0,10 mm; palma 0,12 mm; dedos 0,145 mm

Protección respiratoria:

Use un dispositivo de protección respiratoria adecuado.

Riesgos térmicos:

Ninguno

Controles de la exposición ambiental:

Ninguno

Controles técnicos apropiados:

Ninguno

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedad                                                                    | Valor          | Método: | Notas |
|------------------------------------------------------------------------------|----------------|---------|-------|
| Estado físico:                                                               | Líquido        | --      | --    |
| Color:                                                                       | incoloro       | --      | --    |
| Olor:                                                                        | característico | --      | --    |
| Punto de fusión/punto de congelación:                                        | N.A.           | --      | --    |
| Punto de ebullición o punto inicial de ebullición e intervalo de ebullición: | 82.4°C         | arx1    | --    |
| Inflamabilidad:                                                              | N.A.           | --      | --    |
| Límite superior e inferior de explosividad:                                  | N.A.           | --      | --    |
| Punto de ignición (flash point, fp):                                         | 12 °C          | 08      | --    |
| Temperatura de autoencendido:                                                | N.A.           | --      | --    |

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|                                                            |            |    |    |
|------------------------------------------------------------|------------|----|----|
| Temperatura de descomposición:                             | N.A.       | -- | -- |
| pH:                                                        | N.A.       | -- | -- |
| Viscosidad cinemática:                                     | N.A.       | -- | -- |
| Hidrosolubilidad:                                          | N.A.       | -- | -- |
| Solubilidad en aceite:                                     | N.A.       | -- | -- |
| Coeficiente de reparto n-octanol/agua (valor logarítmico): | N.A.       | -- | -- |
| Presión de vapor:                                          | N.A.       | -- | -- |
| Densidad y/o densidad relativa:                            | 0.81 g/cm3 | 09 | -- |
| Densidad de vapor relativa:                                | N.A.       | -- | -- |
| Características de las partículas:                         |            |    |    |
| Tamaño de las partículas:                                  | N.A.       | -- | -- |

#### 9.2. Otros datos

Ninguna otra información relevante

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## SECCIÓN 10. Estabilidad y reactividad

### 10.1. Reactividad

Estable en condiciones normales

### 10.2. Estabilidad química

Estable a las temperaturas ambiente normales y si se usa como está recomendado.

### 10.3. Posibilidad de reacciones peligrosas

Ninguno

### 10.4. Condiciones que deben evitarse

Estable en condiciones normales.

### 10.5. Materiales incompatibles

Evitar el contacto con materiales oxidantes. El producto podría inflamarse.

### 10.6. Productos de descomposición peligrosos

Ninguno.

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## SECCIÓN 11. Información toxicológica

### 11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.º 1272/2008

Información toxicológica del producto:

DE GEL SPRAY

#### a) toxicidad aguda

No clasificado

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

#### b) corrosión o irritación cutáneas

No clasificado

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

#### c) lesiones o irritación ocular graves

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- El producto está clasificado: Eye Irrit. 2 H319
- d) sensibilización respiratoria o cutánea  
No clasificado  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
  - e) mutagenicidad en células germinales  
No clasificado  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
  - f) carcinogenicidad  
No clasificado  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
  - g) toxicidad para la reproducción  
No clasificado  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
  - h) toxicidad específica en determinados órganos (STOT) – exposición única  
El producto está clasificado: STOT SE 3 H336
  - i) toxicidad específica en determinados órganos (STOT) – exposición repetida  
No clasificado  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
  - j) peligro de aspiración  
No clasificado  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- La información toxicológica de las sustancias principales halladas en el producto:  
Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0
- a) toxicidad aguda:  
Ensayo: LD50 - Vía: Oral - Especies: Rata = 5840 mg/kg  
Ensayo: LD50 - Vía: Piel - Especies: Conejo = 16.4 ml/kg  
Ensayo: LC50 - Vía: Inhalación - Especies: Rata > 10000 ppm - Duración: 6h
  - g) toxicidad para la reproducción:  
Ensayo: NOAEL(C) - Vía: Oral - Especies: Conejo 480 mg/kg
- Etanodiol; etilenglicol - CAS: 107-21-1
- a) toxicidad aguda:  
Ensayo: LC50 - Vía: Oral - Especies: Rata 7712 mg/kg  
Ensayo: LC50 - Vía: Inhalación - Especies: Rata 2.5 mg/l - Duración: 6h  
Ensayo: LD50 - Vía: Piel - Especies: Ratón 3500 mg/kg
- 11.2. Información relativa a otros peligros  
Propiedades de alteración endocrina:  
Ningún perturbador endocrino presente en concentración  $\geq 0.1\%$

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## SECCIÓN 12. Información ecológica

- 12.1. Toxicidad  
Utilícese con técnicas de trabajo adecuadas, evitando la dispersión del producto en el medio ambiente.  
Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0
- a) Toxicidad acuática aguda:  
Parámetro: LC50 - Especies: Peces 9640 mg/l - Duración h.: 96  
Parámetro: LC50 - Especies: Peces > 100 mg/l - Duración h.: 48  
Parámetro: EC50 - Especies: Daphnia > 10000 mg/l - Duración h.: 48  
Parámetro: EC50 - Especies: Algas > 1800 mg/l - Duración h.: 72
- Etanodiol; etilenglicol - CAS: 107-21-1
- a) Toxicidad acuática aguda:  
Parámetro: LC50 - Especies: Peces 49-72.86 GL - Duración h.: 96  
Parámetro: EC50 - Especies: Daphnia 100 mg/l - Duración h.: 48  
Parámetro: LC50 - Especies: Daphnia 74.448 GL - Duración h.: 242  
Parámetro: EC0 - Especies: Daphnia 100 mg/l - Duración h.: 48  
Parámetro: CE4 - Especies: Algas 10.94 GL - Duración h.: 96
  - b) Toxicidad acuática crónica:

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Parámetro: NOEC - Especies: Peces 49 mg/l - Duración h.: 504  
Parámetro: LC50 - Especies: Peces 1.5 GL - Duración h.: 504  
Parámetro: NOEC - Especies: Daphnia 8.59-24 mg/l - Duración h.: 168  
Parámetro: NOEC - Especies: Algas 1000 mg/l - Duración h.: 72

#### 12.2. Persistencia y degradabilidad

Ninguno

Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0

Biodegradabilidad: Rápidamente degradable - Duración h.: .10gg - %: 70

Etanodiol; etilenglicol - CAS: 107-21-1

Biodegradabilidad: Rápidamente degradable - Ensayo: BIOGDG13 - Duración h.: .10gg - %: 90-10

#### 12.3. Potencial de bioacumulación

Etanodiol; etilenglicol - CAS: 107-21-1

Bioacumulación: No bioacumulable

#### 12.4. Movilidad en el suelo

Etanodiol; etilenglicol - CAS: 107-21-1

Movilidad en el suelo: Móvil

#### 12.5. Resultados de la valoración PBT y mPmB

Sustancias vPvB: Ninguna - Sustancias PBT: Ninguna

#### 12.6. Propiedades de alteración endocrina

Ningún perturbador endocrino presente en concentración  $\geq 0.1\%$

#### 12.7. Otros efectos adversos

Ninguno

## SECCIÓN 13. Consideraciones relativas a la eliminación

#### 13.1. Métodos para el tratamiento de residuos

Recuperar si es posible. Enviar a centros de eliminación autorizados o a incineración en condiciones controladas. Operar conforme con las disposiciones locales y nacionales vigentes.

#### Información adicional sobre eliminación:

"Utilice el producto según las buenas prácticas de trabajo, evitando la dispersión en el medio ambiente.

No descargue en alcantarillados, canales o cursos de agua. Respete la legislación vigente en materia de protección del agua y el suelo contra la contaminación (Decreto Legislativo n.º 152 del 3/4/2006).

Elimine el producto y los envases usados entregándolos a empresas autorizadas, de acuerdo con lo establecido en el Decreto

Legislativo n.º 152/2006 (Texto Refundido de la Ley de Medio Ambiente, que sustituyó al Decreto Ronchi) en su versión modificada.

El producto usado debe considerarse residuo especial que debe clasificarse de acuerdo con la Directiva n.º 2008/98/CE sobre residuos y asuntos relacionados. Recupere el producto si es posible. Envíe a plantas de eliminación autorizadas o incineración en condiciones controladas (152/2006 Art. 184).

Trabajar según las disposiciones locales y nacionales vigentes.

Los embalajes contaminados se deben vaciar, siempre que sea posible. Después de la limpieza, reciclar o eliminar en un centro autorizado."

## SECCIÓN 14. Información relativa al transporte



#### 14.1. Número ONU o número ID

ADR-UN Number: 1950

IATA-UN Number: 1950

8468/9

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|                                                                             |                        |       |
|-----------------------------------------------------------------------------|------------------------|-------|
| IMDG-UN Number:                                                             | 1950                   |       |
| 14.2. Designación oficial de transporte de las Naciones Unidas              |                        |       |
| ADR-Shipping Name:                                                          | AEROSOLES, inflamables |       |
| IATA-Shipping Name:                                                         | AEROSOLES, inflamables |       |
| IMDG-Shipping Name:                                                         | AEROSOLES, inflamables |       |
| 14.3. Clase(s) de peligro para el transporte                                |                        |       |
| ADR-Class:                                                                  | 2                      |       |
| ADR - Número de identificación del peligro:                                 | -                      |       |
| IATA-Class:                                                                 | 2                      |       |
| IATA-Label:                                                                 | 2.1                    |       |
| IMDG-Class:                                                                 | 2                      |       |
| IMDG-Clase:                                                                 | 2 UN 1950              |       |
| 14.4. Grupo de embalaje                                                     |                        |       |
| ADR-Packing Group:                                                          | -                      |       |
| IATA-Packing group:                                                         | -                      |       |
| IMDG-Packing group:                                                         | -                      |       |
| 14.5. Peligros para el medio ambiente                                       |                        |       |
| ADR-Contaminante ambiental:                                                 | No                     |       |
| IMDG-Marine pollutant:                                                      | No                     |       |
| IMDG-EmS:                                                                   | F-D,<br>S-U            |       |
| 14.6. Precauciones particulares para los usuarios                           |                        |       |
| ADR-Subsidiary hazards:                                                     | See SP63               |       |
| ADR-S.P.:                                                                   | 190 327 344 625        |       |
| ADR-Categoría de transporte (Código de restricción en túneles):             |                        | 2 (D) |
| IATA-Passenger Aircraft:                                                    | 203                    |       |
| IATA-Subsidiary hazards:                                                    | See SP63               |       |
| IATA-Cargo Aircraft:                                                        | 203                    |       |
| IATA-S.P.:                                                                  | A145 A167 A802         |       |
| IATA-ERG:                                                                   | 10L                    |       |
| IMDG-Subsidiary hazards:                                                    | See SP63               |       |
| IMDG-Stowage and handling:                                                  | SW1 SW22               |       |
| IMDG-Segregation:                                                           | SG69                   |       |
| 14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI |                        |       |
| N.A.                                                                        |                        |       |
| Limited Quantity:                                                           | 1 L                    |       |
| Exempted Quantity:                                                          | E0                     |       |

## SECCIÓN 15. Información reglamentaria

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

Dir. 98/24/CE (Riesgos relacionados con los agentes químicos durante el trabajo)

Dir. 2000/39/CE (Valores límite de exposición profesional)

Reglamento (CE) n. 1907/2006 (REACH)

Reglamento (CE) n. 1272/2008 (CLP)

Reglamento (CE) n. 790/2009 (ATP 1 CLP) y (UE) n. 758/2013

Reglamento (UE) n. 2020/878

Reglamento (UE) n. 286/2011 (ATP 2 CLP)

Reglamento (UE) n. 618/2012 (ATP 3 CLP)

Reglamento (UE) n. 487/2013 (ATP 4 CLP)

Reglamento (UE) n. 944/2013 (ATP 5 CLP)

Reglamento (UE) n. 605/2014 (ATP 6 CLP)

Reglamento (UE) n. 2015/1221 (ATP 7 CLP)

Reglamento (UE) n. 2016/918 (ATP 8 CLP)

Reglamento (UE) n. 2016/1179 (ATP 9 CLP)

Reglamento (UE) n. 2017/776 (ATP 10 CLP)

Reglamento (UE) n. 2018/669 (ATP 11 CLP)

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Reglamento (UE) n. 2018/1480 (ATP 13 CLP)  
Reglamento (UE) n. 2019/521 (ATP 12 CLP)  
Reglamento (UE) n. 2020/217 (ATP 14 CLP)  
Reglamento (UE) n. 2020/1182 (ATP 15 CLP)  
Reglamento (UE) n. 2021/643 (ATP 16 CLP)  
Reglamento (UE) n. 2021/849 (ATP 17 CLP)  
Reglamento (UE) n. 2022/692 (ATP 18 CLP)

Restricciones relacionadas con el producto o las sustancias contenidas, de acuerdo con el anexo XVII del Reglamento (CE) 1907/2006 (REACH) y las modificaciones posteriores:

Restricciones relacionadas con el producto:

Restricción 3

Restricción 40

Restricciones relacionadas con las sustancias contenidas:

Restricción 75

Compuestos orgánicos volátiles - COV = 95.90 %

Compuestos orgánicos volátiles - COV = 959.00 g/Kg

Compuestos orgánicos volátiles - COV = 776.79 g/l

Cuando sean aplicables, hágase referencia a las siguientes normativas:

Directiva 2012/18/EU (Seveso III)

Reglamento (CE) no 648/2004 (detergentes).

Dir. 2004/42/CE (directiva COV)

Disposiciones sobre la directiva EU 2012/18 (Seveso III):

Categoría Seveso III de acuerdo con el anexo 1, parte 1

el producto pertenece a la categoría: P3b

#### 15.2. Evaluación de la seguridad química

No se ha realizado ninguna evaluación de la seguridad química para la mezcla

Sustancias para las cuales se ha realizado una evaluación de la seguridad química

Propan-2-ol; alcohol isopropílico; isopropanol

Etanodiol; etilenglicol

## SECCIÓN 16. Otra información

Texto de las frases utilizadas en el párrafo 3:

H225 Líquido y vapores muy inflamables.

H319 Provoca irritación ocular grave.

H336 Puede provocar somnolencia o vértigo.

H302 Nocivo en caso de ingestión.

H373 (riñones) (oral) Puede provocar daños en los órganos (riñones) tras exposiciones prolongadas o repetidas por ingestión.

H281 Contiene gas refrigerado; puede provocar quemaduras o lesiones criogénicas.

| Clase y categoría de peligro | Código     | Descripción                                  |
|------------------------------|------------|----------------------------------------------|
| Aerosols 1                   | 2.3/1      | Aerosoles, Categoría 1                       |
| Press Gas (Ref. Liq.)        | 2.5/RL     | Gases a presión (Gas licuado refrigerado)    |
| Flam. Liq. 2                 | 2.6/2      | Líquidos inflamables, Categoría 2            |
| Acute Tox. 4                 | 3.1/4/Oral | Toxicidad aguda (oral), Categoría 4          |
| Eye Irrit. 2                 | 3.3/2      | Irritación ocular, Categoría 2               |
| STOT SE 3                    | 3.8/3      | Toxicidad específica en determinados órganos |

## Ficha de datos de seguridad

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|           |       |                                                                                    |
|-----------|-------|------------------------------------------------------------------------------------|
|           |       | (exposiciones única), Categoría 3                                                  |
| STOT RE 2 | 3.9/2 | Toxicidad específica en determinados órganos (exposiciones repetidas), Categoría 2 |

Parágrafos modificados respecto la revisión anterior

SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa  
SECCIÓN 5. Medidas de lucha contra incendios  
SECCIÓN 6. Medidas en caso de vertido accidental  
SECCIÓN 7. Manipulación y almacenamiento  
SECCIÓN 8. Controles de exposición/protección individual  
SECCIÓN 9. Propiedades físicas y químicas  
SECCIÓN 10. Estabilidad y reactividad  
SECCIÓN 11. Información toxicológica  
SECCIÓN 12. Información ecológica  
SECCIÓN 13. Consideraciones relativas a la eliminación  
SECCIÓN 15. Información reglamentaria

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

| Clasificación con arreglo al Reglamento (CE) nº 1272/2008 | Procedimiento de clasificación            |
|-----------------------------------------------------------|-------------------------------------------|
| Aerosols 1, H222, H229                                    | Conforme a datos obtenidos de los ensayos |
| Eye Irrit. 2, H319                                        | Método de cálculo                         |
| STOT SE 3, H336                                           | Método de cálculo                         |

Este documento ha sido preparado por una persona competente que ha recibido un entrenamiento adecuado

Principales fuentes bibliográficas:

ECDIN: Environmental Chemicals Data and Information Network, Centro Común de Investigación, Comisión de las Comunidades Europeas  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, 8ª ed., Van Nostrand Reinold

La información aquí detallada se basa en nuestros conocimientos hasta la fecha señalada arriba. Se refiere exclusivamente al producto indicado y no constituye garantía de cualidades particulares. El usuario debe asegurarse de la idoneidad y exactitud de dicha información en relación al uso específico que debe hacer del producto.

Esta ficha anula y sustituye toda edición precedente.

ADR: Acuerdo europeo relativo al transporte internacional de mercancías peligrosas por carretera.  
CAS: Chemical Abstracts Service (de la American Chemical Society).  
CLP: Clasificación, etiquetado, embalaje.  
DNEL: Nivel sin efecto derivado.  
EINECS: Catálogo Europeo de Sustancias Químicas Comercializadas.  
ETA: Estimación de la toxicidad aguda  
ETAmix: Estimación de Toxicidad Aguda (Mezclas)  
GefStoffVO: Ordenanza sobre sustancias peligrosas, Alemania.  
GHS: Sistema Globalmente Armonizado de clasificación y etiquetado de

## Ficha de datos de seguridad

### ELIMINA GHIACCIO



|           |                                                                                                            |
|-----------|------------------------------------------------------------------------------------------------------------|
|           | productos químicos.                                                                                        |
| IATA:     | Asociación de Transporte Aéreo Internacional.                                                              |
| IATA-DGR: | Normas aplicadas a las mercancías peligrosas por la "Asociación de Transporte Aéreo Internacional" (IATA). |
| ICAO:     | Organización de la Aviación Civil Internacional.                                                           |
| ICAO-TI:  | Instrucciones Técnicas de la "Organización de la Aviación Civil Internacional" (OACI).                     |
| IMDG:     | Código marítimo internacional de mercancías peligrosas.                                                    |
| INCI:     | Nomenclatura internacional de ingredientes cosméticos.                                                     |
| KSt:      | Coefficiente de explosión.                                                                                 |
| LC50:     | Concentración letal para el 50% de la población expuesta.                                                  |
| LD50:     | Dosis letal para el 50% de la población expuesta.                                                          |
| NA:       | No aplicable                                                                                               |
| PNEC:     | Concentración prevista sin efecto.                                                                         |
| RID:      | Normas relativas al transporte internacional de mercancías peligrosas por ferrocarril.                     |
| STEL:     | Nivel de exposición de corta duración.                                                                     |
| STOT:     | Toxicidad específica en determinados órganos.                                                              |
| TLV:      | Valor límite del umbral.                                                                                   |
| TWA:      | Promedio ponderado en el tiempo                                                                            |
| WGK:      | Clase de peligro para las aguas (Alemania).                                                                |

# Exposure Scenario, 19/07/2019

| Substance identity |                 |
|--------------------|-----------------|
| Chemical name      | ETHYLENE GLYCOL |
| CAS No.            | 107-21-1        |
| EINECS No.         | 203-473-3       |

## Table of contents

1. **ES 1** Use at industrial site
2. **ES 2** Widespread use by professional workers
3. **ES 3** Widespread use by professional workers
4. **ES 4** Consumer use; Various products (PC9a, PC1, PC4, PC8, PC15)

| 1. ES 1 Use at industrial site                                                                           |                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1.1 TITLE SECTION</b>                                                                                 |                                                                                                                                              |
| Exposure Scenario name                                                                                   | Use in cleaning agents                                                                                                                       |
| Date - Version                                                                                           | 18/07/2019 - 1.0                                                                                                                             |
| Life Cycle Stage                                                                                         | Use at industrial site                                                                                                                       |
| Main user group                                                                                          | Industrial uses                                                                                                                              |
| Sector(s) of use                                                                                         | Industrial uses (SU3)                                                                                                                        |
| <b>Environment Contributing Scenario</b>                                                                 |                                                                                                                                              |
| CS1 Covered by                                                                                           | ERC4                                                                                                                                         |
| <b>Worker Contributing Scenario</b>                                                                      |                                                                                                                                              |
| CS2 Industrial                                                                                           | PROC1                                                                                                                                        |
| CS3 Industrial                                                                                           | PROC2                                                                                                                                        |
| CS4 Industrial                                                                                           | PROC3                                                                                                                                        |
| CS5 Industrial                                                                                           | PROC4                                                                                                                                        |
| CS6 Industrial                                                                                           | PROC8b                                                                                                                                       |
| CS7 Industrial                                                                                           | PROC7                                                                                                                                        |
| CS8 Industrial                                                                                           | PROC8a                                                                                                                                       |
| CS9 Industrial                                                                                           | PROC10                                                                                                                                       |
| CS10 Industrial                                                                                          | PROC13                                                                                                                                       |
| <b>1.2 Conditions of use affecting exposure</b>                                                          |                                                                                                                                              |
| <b>1.2. CS1: Environment Contributing Scenario: Covered by (ERC4)</b>                                    |                                                                                                                                              |
| Environmental release categories                                                                         | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)                                             |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                                                              |
| <b>Physical form of product:</b><br>Liquid                                                               |                                                                                                                                              |
| <b>Vapour pressure:</b><br>0.123 hPa                                                                     |                                                                                                                                              |
| <b>1.2. CS2: Worker Contributing Scenario: Industrial (PROC1)</b>                                        |                                                                                                                                              |
| Process Categories                                                                                       | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                                                              |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                                                              |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                                                              |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                                                              |
| <b>Frequency:</b><br>Use frequency 240 days per year                                                     |                                                                                                                                              |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                                                              |
| <b>Personal protection</b>                                                                               |                                                                                                                                              |

Wear suitable gloves tested to EN374.

### *Other conditions affecting worker exposure*

Indoor use

## **1.2. CS3: Worker Contributing Scenario: Industrial (PROC2)**

### **Process Categories**

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

### *Product (article) characteristics*

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Use frequency 240 days per year

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.

### *Other conditions affecting worker exposure*

Indoor use

## **1.2. CS4: Worker Contributing Scenario: Industrial (PROC3)**

### **Process Categories**

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

### *Product (article) characteristics*

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Use frequency 240 days per year

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.

### *Other conditions affecting worker exposure*

Indoor use

## **1.2. CS5: Worker Contributing Scenario: Industrial (PROC4)**

### **Process Categories**

Chemical production where opportunity for exposure arises (PROC4)

### *Product (article) characteristics*

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Use frequency 240 days per year

### *Conditions and measures related to personal protection, hygiene and health evaluation*

|                                                                                                          |                                                                                                  |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.                                      |                                                                                                  |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                  |
| Indoor use                                                                                               |                                                                                                  |
| <b>1.2. CS6: Worker Contributing Scenario: Industrial (PROC8b)</b>                                       |                                                                                                  |
| <b>Process Categories</b>                                                                                | Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)     |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                  |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                  |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                  |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                  |
| <b>Frequency:</b><br>Use frequency 240 days per year                                                     |                                                                                                  |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                  |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.                                      |                                                                                                  |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                  |
| Indoor use                                                                                               |                                                                                                  |
| <b>1.2. CS7: Worker Contributing Scenario: Industrial (PROC7)</b>                                        |                                                                                                  |
| <b>Process Categories</b>                                                                                | Industrial spraying (PROC7)                                                                      |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                  |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                  |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                  |
| <b>Amounts used:</b><br>Amount per use 1 L/min                                                           |                                                                                                  |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                  |
| <b>Frequency:</b><br>Use frequency 5 days per week                                                       |                                                                                                  |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                  |
| <b>Personal protection</b>                                                                               |                                                                                                  |
| Wear suitable gloves tested to EN374.                                                                    | Derma - minimum efficiency of: 90 %                                                              |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                  |
| Indoor use                                                                                               |                                                                                                  |
| <b>Room size:</b> Covers use in room size of > 1000 m <sup>3</sup>                                       |                                                                                                  |
| <b>1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a)</b>                                       |                                                                                                  |
| <b>Process Categories</b>                                                                                | Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a) |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                  |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                  |

|                                                                                                                  |                                                       |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <i>Amount used, frequency and duration of use/exposure</i>                                                       |                                                       |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours<br><b>Frequency:</b><br>Use frequency 240 days per year |                                                       |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>                     |                                                       |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.                                              |                                                       |
| <i>Other conditions affecting worker exposure</i>                                                                |                                                       |
| Indoor use                                                                                                       |                                                       |
| <b>Ventilation rate:</b> > 90 %                                                                                  |                                                       |
| <b>1.2. CS9: Worker Contributing Scenario: Industrial (PROC10)</b>                                               |                                                       |
| <b>Process Categories</b>                                                                                        | Roller application or brushing (PROC10)               |
| <i>Product (article) characteristics</i>                                                                         |                                                       |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %.         |                                                       |
| <i>Amount used, frequency and duration of use/exposure</i>                                                       |                                                       |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours<br><b>Frequency:</b><br>Use frequency 240 days per year |                                                       |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>                     |                                                       |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.<br>Use suitable eye protection.              |                                                       |
| <i>Other conditions affecting worker exposure</i>                                                                |                                                       |
| Indoor use                                                                                                       |                                                       |
| <b>1.2. CS10: Worker Contributing Scenario: Industrial (PROC13)</b>                                              |                                                       |
| <b>Process Categories</b>                                                                                        | Treatment of articles by dipping and pouring (PROC13) |
| <i>Product (article) characteristics</i>                                                                         |                                                       |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %.         |                                                       |
| <i>Amount used, frequency and duration of use/exposure</i>                                                       |                                                       |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours<br><b>Frequency:</b><br>Use frequency 240 days per year |                                                       |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>                     |                                                       |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.<br>Use suitable eye protection.              |                                                       |
| <i>Other conditions affecting worker exposure</i>                                                                |                                                       |
| Indoor use                                                                                                       |                                                       |
| <b>1.3 Exposure estimation and reference to its source</b>                                                       |                                                       |
| <b>1.3. CS2: Worker Contributing Scenario: Industrial (PROC1)</b>                                                |                                                       |
|                                                                                                                  |                                                       |

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.001                             |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.001                             |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.003                             |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.004                             |

### 1.3. CS3: Worker Contributing Scenario: Industrial (PROC2)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.07                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.07                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.01                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.08                              |

### 1.3. CS4: Worker Contributing Scenario: Industrial (PROC3)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.22                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.22                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.003                             |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.223                             |

### 1.3. CS5: Worker Contributing Scenario: Industrial (PROC4)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.37                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.37                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.06                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.43                              |

### 1.3. CS6: Worker Contributing Scenario: Industrial (PROC8b)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.37                              |

|                                      |     |               |      |
|--------------------------------------|-----|---------------|------|
| inhalative, local, long-term         | N/A | EASY TRA v2.0 | 0.37 |
| dermal, systemic, long-term          | N/A | EASY TRA v2.0 | 0.06 |
| combined routes, systemic, long-term | N/A | EASY TRA v2.0 | 0.43 |

### 1.3. CS7: Worker Contributing Scenario: Industrial (PROC7)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.28                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.28                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.52                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.8                               |

### 1.3. CS8: Worker Contributing Scenario: Industrial (PROC8a)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.37                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.37                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.06                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.43                              |

### 1.3. CS9: Worker Contributing Scenario: Industrial (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.74                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.74                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.03                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.77                              |

### 1.3. CS10: Worker Contributing Scenario: Industrial (PROC13)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.74                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.74                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.01                              |

|                                      |     |               |      |
|--------------------------------------|-----|---------------|------|
| combined routes, systemic, long-term | N/A | EASY TRA v2.0 | 0.75 |
|--------------------------------------|-----|---------------|------|

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

**Guidance to check compliance with the exposure scenario:**  
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## 2. ES 2 Widespread use by professional workers

### 2.1 TITLE SECTION

|                        |                                        |
|------------------------|----------------------------------------|
| Exposure Scenario name | Use in cleaning agents                 |
| Date - Version         | 19/07/2019 - 1.0                       |
| Life Cycle Stage       | Widespread use by professional workers |
| Main user group        | Professional uses                      |
| Sector(s) of use       | Professional uses (SU22)               |

#### Environment Contributing Scenario

|                |               |
|----------------|---------------|
| CS1 Covered by | ERC8a - ERC8d |
|----------------|---------------|

#### Worker Contributing Scenario

|                                              |        |
|----------------------------------------------|--------|
| CS2 General use from professional operators  | PROC1  |
| CS3 General use from professional operators  | PROC2  |
| CS4 General use from professional operators  | PROC3  |
| CS5 General use from professional operators  | PROC4  |
| CS6 General use from professional operators  | PROC8b |
| CS7 General use from professional operators  | PROC8a |
| CS8 General use from professional operators  | PROC10 |
| CS9 General use from professional operators  | PROC11 |
| CS10 General use from professional operators | PROC13 |

## 2.2 Conditions of use affecting exposure

### 2.2. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

|                                  |                                                                                                                                                                                                             |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental release categories | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -<br>Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)<br>(ERC8a, ERC8d) |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Vapour pressure:

0.123 hPa

### 2.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)

|                    |                                                                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Process Categories | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|

#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use/exposure*

|                                                                                                          |                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                                                                                              |
| <b>Frequency:</b><br>Use frequency 240 days per year                                                     |                                                                                                                                                                              |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                                                                                              |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.<br>Use suitable eye protection.      |                                                                                                                                                                              |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                                                                                              |
| Indoor use                                                                                               |                                                                                                                                                                              |
| <b>2.2. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)</b>           |                                                                                                                                                                              |
| <b>Process Categories</b>                                                                                | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)                 |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                                                                                              |
| <b>Physical form of product:</b><br>Liquid                                                               |                                                                                                                                                                              |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                                                                                              |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                                                                                              |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                                                                                              |
| <b>Frequency:</b><br>Use frequency 240 days per year                                                     |                                                                                                                                                                              |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                                                                                              |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.<br>Use suitable eye protection.      |                                                                                                                                                                              |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                                                                                              |
| Indoor use                                                                                               |                                                                                                                                                                              |
| <b>2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC3)</b>           |                                                                                                                                                                              |
| <b>Process Categories</b>                                                                                | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                                                                                              |
| <b>Physical form of product:</b><br>Liquid                                                               |                                                                                                                                                                              |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                                                                                              |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                                                                                              |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                                                                                              |
| <b>Frequency:</b><br>Use frequency 240 days per year                                                     |                                                                                                                                                                              |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                                                                                              |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.<br>Use suitable eye protection.      |                                                                                                                                                                              |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                                                                                              |
| Indoor use                                                                                               |                                                                                                                                                                              |

## 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC4)

|                    |                                                                   |
|--------------------|-------------------------------------------------------------------|
| Process Categories | Chemical production where opportunity for exposure arises (PROC4) |
|--------------------|-------------------------------------------------------------------|

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Use frequency 240 days per year

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.

Use suitable eye protection.

### *Other conditions affecting worker exposure*

Indoor use

## 2.2. CS6: Worker Contributing Scenario: General use from professional operators (PROC8b)

|                    |                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------|
| Process Categories | Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b) |
|--------------------|----------------------------------------------------------------------------------------------|

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Use frequency 240 days per year

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.

Use suitable eye protection.

### *Other conditions affecting worker exposure*

Indoor use

## 2.2. CS7: Worker Contributing Scenario: General use from professional operators (PROC8a)

|                    |                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------|
| Process Categories | Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a) |
|--------------------|--------------------------------------------------------------------------------------------------|

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

**Duration:**

Covers daily exposures up to 8 hours

**Frequency:**

Use frequency 240 days per year

*Conditions and measures related to personal protection, hygiene and health evaluation***Personal protection**

Wear suitable gloves tested to EN374.

Use suitable eye protection.

*Other conditions affecting worker exposure*

Indoor use

**Ventilation rate:** 80 %**2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10)****Process Categories**

Roller application or brushing (PROC10)

*Product (article) characteristics***Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

*Amount used, frequency and duration of use/exposure***Duration:**

Covers daily exposures up to 8 hours

**Frequency:**

Use frequency 240 days per year

*Conditions and measures related to personal protection, hygiene and health evaluation***Personal protection**

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Wear suitable respiratory protection.

Inhalation - minimum efficiency of: 80 %

*Other conditions affecting worker exposure*

Indoor use

**Ventilation rate:** 80 %**2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11)****Process Categories**

Non industrial spraying (PROC11)

*Product (article) characteristics***Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

*Amount used, frequency and duration of use/exposure***Amounts used:**

Amount per use 0.05 L/min

**Duration:**

Exposure duration 180 min

**Frequency:**

Use frequency < 5 days per week

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

|                                                                       |                                          |
|-----------------------------------------------------------------------|------------------------------------------|
| Wear suitable gloves tested to EN374.<br>Use suitable eye protection. | Inhalation - minimum efficiency of: 90 % |
| Wear suitable respiratory protection.                                 | Inhalation - minimum efficiency of: 80 % |

### *Other conditions affecting worker exposure*

Indoor use

**Room size:** Covers use in room size of > 100 m<sup>3</sup>

**Ventilation rate:** 80 %

## **2.2. CS10: Worker Contributing Scenario: General use from professional operators (PROC13)**

|                           |                                                       |
|---------------------------|-------------------------------------------------------|
| <b>Process Categories</b> | Treatment of articles by dipping and pouring (PROC13) |
|---------------------------|-------------------------------------------------------|

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Use frequency < 240 days per year

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

|                                                                       |                                          |
|-----------------------------------------------------------------------|------------------------------------------|
| Wear suitable gloves tested to EN374.<br>Use suitable eye protection. | Inhalation - minimum efficiency of: 90 % |
|-----------------------------------------------------------------------|------------------------------------------|

### *Other conditions affecting worker exposure*

Indoor use

## **2.3 Exposure estimation and reference to its source**

### **2.3. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)**

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.001                             |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.001                             |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.003                             |

|                             |     |                        |       |
|-----------------------------|-----|------------------------|-------|
| dermal, systemic, long-term | N/A | ECETOC TRA worker v2.0 | 0.004 |
|-----------------------------|-----|------------------------|-------|

### 2.3. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.37                              |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.37                              |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.01                              |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.38                              |

### 2.3. CS4: Worker Contributing Scenario: General use from professional operators (PROC3)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.22                              |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.22                              |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.003                             |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.223                             |

### 2.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC4)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.74                              |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.74                              |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.006                             |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.8                               |

### 2.3. CS6: Worker Contributing Scenario: General use from professional operators (PROC8b)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.74                              |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.74                              |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.06                              |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.8                               |

### 2.3. CS7: Worker Contributing Scenario: General use from professional operators (PROC8a)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.37                              |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.37                              |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.13                              |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.5                               |

### 2.3. CS8: Worker Contributing Scenario: General use from professional operators (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.37                              |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.37                              |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.3                               |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.4                               |

### 2.3. CS9: Worker Contributing Scenario: General use from professional operators (PROC11)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.4                               |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.4                               |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.51                              |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.91                              |

### 2.3. CS10: Worker Contributing Scenario: General use from professional operators (PROC13)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.74                              |
| dermal, local, long-term                          | N/A            | ECETOC TRA worker v2.0 | 0.74                              |
| inhalative, systemic, long-term                   | N/A            | ECETOC TRA worker v2.0 | 0.01                              |
| dermal, systemic, long-term                       | N/A            | ECETOC TRA worker v2.0 | 0.75                              |

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

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### 3. ES 3 Widespread use by professional workers

#### 3.1 TITLE SECTION

|                        |                                        |
|------------------------|----------------------------------------|
| Exposure Scenario name | Use in antifreeze products             |
| Date - Version         | 19/07/2019 - 1.0                       |
| Life Cycle Stage       | Widespread use by professional workers |
| Main user group        | Professional uses                      |
| Sector(s) of use       | Professional uses (SU22)               |

#### Environment Contributing Scenario

|                |       |
|----------------|-------|
| CS1 Covered by | ERC8d |
|----------------|-------|

#### Worker Contributing Scenario

|                                             |        |
|---------------------------------------------|--------|
| CS2 General use from professional operators | PROC1  |
| CS3 General use from professional operators | PROC2  |
| CS4 General use from professional operators | PROC8a |
| CS5 General use from professional operators | PROC8b |
| CS6 General use from professional operators | PROC11 |

### 3.2 Conditions of use affecting exposure

#### 3.2. CS1: Environment Contributing Scenario: Covered by (ERC8d)

|                                  |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|
| Environmental release categories | Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d) |
|----------------------------------|----------------------------------------------------------------------------------------------------|

#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Vapour pressure:

0.123 hPa

#### 3.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)

|                    |                                                                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Process Categories | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|

#### *Product (article) characteristics*

##### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use/exposure*

##### Duration:

Covers daily exposures up to 8 hours

##### Frequency:

Covers exposure up to 240 days per year

#### *Technical and organisational conditions and measures*

##### Technical and organisational measures

Use in contained systems

#### *Conditions and measures related to personal protection, hygiene and health evaluation*

##### Personal protection

Wear suitable gloves tested to EN374.

|                                                                                                          |                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                                                                              |
| Indoor use                                                                                               |                                                                                                                                                              |
| <b>3.2. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)</b>           |                                                                                                                                                              |
| <b>Process Categories</b>                                                                                | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                                                                              |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                                                                              |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                                                                              |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                                                                              |
| <b>Frequency:</b><br>Covers exposure up to 240 days per year                                             |                                                                                                                                                              |
| <i>Technical and organisational conditions and measures</i>                                              |                                                                                                                                                              |
| <b>Technical and organisational measures</b><br>Use in contained systems                                 |                                                                                                                                                              |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                                                                              |
| <b>Personal protection</b><br>Wear suitable gloves tested to EN374.                                      |                                                                                                                                                              |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                                                                              |
| Indoor use                                                                                               |                                                                                                                                                              |
| <b>3.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC8a)</b>          |                                                                                                                                                              |
| <b>Process Categories</b>                                                                                | Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)                                                             |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                                                                              |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                                                                              |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                                                                              |
| <b>Duration:</b><br>Covers daily exposures up to 8 hours                                                 |                                                                                                                                                              |
| <b>Frequency:</b><br>Covers exposure up to 240 days per year                                             |                                                                                                                                                              |
| <i>Technical and organisational conditions and measures</i>                                              |                                                                                                                                                              |
| <b>Technical and organisational measures</b><br>Use in contained systems                                 |                                                                                                                                                              |
| <i>Conditions and measures related to personal protection, hygiene and health evaluation</i>             |                                                                                                                                                              |
| <b>Personal protection</b>                                                                               |                                                                                                                                                              |
| Wear suitable gloves tested to EN374.                                                                    |                                                                                                                                                              |
| Wear suitable respiratory protection.                                                                    | Inhalation - minimum efficiency of: 80 %                                                                                                                     |
| <i>Other conditions affecting worker exposure</i>                                                        |                                                                                                                                                              |
| Indoor use                                                                                               |                                                                                                                                                              |
| <b>Ventilation rate:</b> 80 %                                                                            |                                                                                                                                                              |
| <b>3.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8b)</b>          |                                                                                                                                                              |
| <b>Process Categories</b>                                                                                | Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)                                                                 |

### *Product (article) characteristics*

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Covers exposure up to 240 days per year

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Use in contained systems

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.

### *Other conditions affecting worker exposure*

Indoor use

## **3.2. CS6: Worker Contributing Scenario: General use from professional operators (PROC11)**

#### **Process Categories**

Non industrial spraying (PROC11)

### *Product (article) characteristics*

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Exposure duration 180 min

#### **Frequency:**

Covers exposure up to 5 days per week

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Use in contained systems

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.

Dermal - minimum efficiency of: 90 %

### *Other conditions affecting worker exposure*

Indoor use

**Room size:** Covers use in room size of > 100 m<sup>3</sup>

## **3.3 Exposure estimation and reference to its source**

### **3.3. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)**

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.001                             |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.001                             |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.003                             |

|                                      |     |               |       |
|--------------------------------------|-----|---------------|-------|
| combined routes, systemic, long-term | N/A | EASY TRA v2.0 | 0.004 |
|--------------------------------------|-----|---------------|-------|

### 3.3. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.37                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.37                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.01                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.38                              |

### 3.3. CS4: Worker Contributing Scenario: General use from professional operators (PROC8a)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.37                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.37                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.13                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.5                               |

### 3.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC8b)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.74                              |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.74                              |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.06                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.8                               |

### 3.3. CS6: Worker Contributing Scenario: General use from professional operators (PROC11)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | EASY TRA v2.0      | 0.4                               |
| inhalative, local, long-term                      | N/A            | EASY TRA v2.0      | 0.4                               |
| dermal, systemic, long-term                       | N/A            | EASY TRA v2.0      | 0.51                              |
| combined routes, systemic, long-term              | N/A            | EASY TRA v2.0      | 0.91                              |

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

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## 4. ES 4 Consumer use; Various products (PC9a, PC1, PC4, PC8, PC15)

### 4.1 TITLE SECTION

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exposure Scenario name | Consumer goods                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Date - Version         | 19/07/2019 - 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Life Cycle Stage       | Consumer use                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Main user group        | Consumer uses                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Product Categories     | Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1) - Anti-freeze and de-icing products (PC4) - Biocidal products (PC8) - Non-metal surface treatment products (PC15) - Heat transfer fluids (PC16) - Hydraulic fluids (PC17) - Ink and toners (PC18) - Leather treatment products (PC23) - Polishes and wax blends (PC31) - Polymer preparations and compounds (PC32) - Textile dyes and impregnating products (PC34) - Washing and cleaning products (PC35) |

### Environment Contributing Scenario

|                |                                               |
|----------------|-----------------------------------------------|
| CS1 Covered by | ERC8a - ERC8c - ERC8d - ERC8f - ERC9a - ERC9b |
|----------------|-----------------------------------------------|

### Consumer Contributing Scenario

|               |                                     |
|---------------|-------------------------------------|
| CS2 Consumer  | PC1                                 |
| CS3 Consumer  | PC4 - PC16 - PC17 - PC4_1           |
| CS4 Consumer  | PC4 - PC4_2                         |
| CS5 Consumer  | PC9a - PC15 - PC9a_2, PC15_2        |
| CS6 Consumer  | PC8                                 |
| CS7 Consumer  | PC18                                |
| CS8 Consumer  | PC31                                |
| CS9 Consumer  | PC32                                |
| CS10 Consumer | PC35 - PC8_2, PC35_2                |
| CS11 Consumer | PC35 - PC8_3, PC35_3                |
| CS12 Consumer | PC15 - PC23 - PC34 - PC9a_1, PC15_1 |

## 4.2 Conditions of use affecting exposure

### 4.2. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8c, ERC8d, ERC8f, ERC9a, ERC9b)

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental release categories | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use leading to inclusion into/onto article (indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) - Widespread use leading to inclusion into/onto article (outdoor) - Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC8a, ERC8c, ERC8d, ERC8f, ERC9a, ERC9b) |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Product (article) characteristics

#### Physical form of product:

Liquid

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

### 4.2. CS2: Consumer Contributing Scenario: Consumer (PC1)

|                    |                           |
|--------------------|---------------------------|
| Product Categories | Adhesives, sealants (PC1) |
|--------------------|---------------------------|

|                                                                                                          |                                                                                                   |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <i>Product (article) characteristics</i>                                                                 |                                                                                                   |
| <b>Concentration of substance in product:</b><br>Covers concentrations up to 0.75 %                      |                                                                                                   |
| <b>4.2. CS3: Consumer Contributing Scenario: Consumer (PC4, PC16, PC17)</b>                              |                                                                                                   |
| <b>Product Categories</b>                                                                                | Anti-freeze and de-icing products - Heat transfer fluids - Hydraulic fluids (PC4, PC16, PC17)     |
| <b>Product (Sub-)Categories</b>                                                                          | Washing car window (PC4_1)                                                                        |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                   |
| <b>Concentration of substance in product:</b><br>Covers concentrations up to 45 %                        |                                                                                                   |
| <i>Amount used, frequency and duration of use/exposure</i>                                               |                                                                                                   |
| <b>Duration:</b><br>Exposure duration < 15 min                                                           |                                                                                                   |
| <b>4.2. CS4: Consumer Contributing Scenario: Consumer (PC4)</b>                                          |                                                                                                   |
| <b>Product Categories</b>                                                                                | Anti-freeze and de-icing products (PC4)                                                           |
| <b>Product (Sub-)Categories</b>                                                                          | Pouring into radiator (PC4_2)                                                                     |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                   |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 100 %. |                                                                                                   |
| <b>4.2. CS5: Consumer Contributing Scenario: Consumer (PC9a, PC15)</b>                                   |                                                                                                   |
| <b>Product Categories</b>                                                                                | Coatings and paints, thinners, paint removers - Non-metal surface treatment products (PC9a, PC15) |
| <b>Product (Sub-)Categories</b>                                                                          | Solvent rich, high solid, water borne paint (PC9a_2, PC15_2)                                      |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                   |
| <b>Concentration of substance in product:</b><br>Covers concentrations up to 10 %                        |                                                                                                   |
| <b>4.2. CS6: Consumer Contributing Scenario: Consumer (PC8)</b>                                          |                                                                                                   |
| <b>Product Categories</b>                                                                                | Biocidal products (PC8)                                                                           |
| <b>4.2. CS7: Consumer Contributing Scenario: Consumer (PC18)</b>                                         |                                                                                                   |
| <b>Product Categories</b>                                                                                | Ink and toners (PC18)                                                                             |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                   |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 5 %.   |                                                                                                   |
| <b>4.2. CS8: Consumer Contributing Scenario: Consumer (PC31)</b>                                         |                                                                                                   |
| <b>Product Categories</b>                                                                                | Polishes and wax blends (PC31)                                                                    |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                   |
| <b>Concentration of substance in product:</b><br>Covers concentrations up to 10 %                        |                                                                                                   |
| <b>4.2. CS9: Consumer Contributing Scenario: Consumer (PC32)</b>                                         |                                                                                                   |
| <b>Product Categories</b>                                                                                | Polymer preparations and compounds (PC32)                                                         |
| <i>Product (article) characteristics</i>                                                                 |                                                                                                   |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 5 %.   |                                                                                                   |
| <b>4.2. CS10: Consumer Contributing Scenario: Consumer (PC35)</b>                                        |                                                                                                   |

|                                 |                                                                                                                                              |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Categories</b>       | Washing and cleaning products (PC35)                                                                                                         |
| <b>Product (Sub-)Categories</b> | Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC8_2, PC35_2) |

#### *Product (article) characteristics*

#### **Concentration of substance in product:**

Covers concentrations up to 20 %

#### **4.2. CS11: Consumer Contributing Scenario: Consumer (PC35)**

|                                 |                                                                                                    |
|---------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Product Categories</b>       | Washing and cleaning products (PC35)                                                               |
| <b>Product (Sub-)Categories</b> | Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (PC8_3, PC35_3) |

#### *Product (article) characteristics*

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 5 %.

#### **4.2. CS12: Consumer Contributing Scenario: Consumer (PC15, PC23, PC34)**

|                                 |                                                                                                                               |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Categories</b>       | Non-metal surface treatment products - Leather treatment products - Textile dyes and impregnating products (PC15, PC23, PC34) |
| <b>Product (Sub-)Categories</b> | Waterborne latex wall paint (PC9a_1, PC15_1)                                                                                  |

### **4.3 Exposure estimation and reference to its source**

#### **4.2. CS2: Consumer Contributing Scenario: Consumer (PC1)**

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.59                              |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.005                             |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.505                             |

#### **4.2. CS3: Consumer Contributing Scenario: Consumer (PC4, PC16, PC17)**

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.28                              |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.08                              |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.36                              |

#### **4.2. CS4: Consumer Contributing Scenario: Consumer (PC4)**

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0                                 |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.09                              |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.09                              |

#### 4.2. CS5: Consumer Contributing Scenario: Consumer (PC9a, PC15)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.04                              |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.02                              |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.06                              |

#### 4.2. CS6: Consumer Contributing Scenario: Consumer (PC8)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0                                 |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.006                             |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.006                             |

#### 4.2. CS7: Consumer Contributing Scenario: Consumer (PC18)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.18                              |
| dermal, systemic, long-term                       | N/A            | N/A                | 0                                 |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.18                              |

#### 4.2. CS8: Consumer Contributing Scenario: Consumer (PC31)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.56                              |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.04                              |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.6                               |

#### 4.2. CS9: Consumer Contributing Scenario: Consumer (PC32)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.009                             |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.001                             |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.01                              |

#### 4.2. CS10: Consumer Contributing Scenario: Consumer (PC35)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.09                              |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.22                              |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.31                              |

#### 4.2. CS11: Consumer Contributing Scenario: Consumer (PC35)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------------------------------------|----------------|--------------------|-----------------------------------|
| inhalative, systemic, long-term                   | N/A            | N/A                | 0.02                              |
| dermal, systemic, long-term                       | N/A            | N/A                | 0.002                             |
| combined routes, systemic, long-term              | N/A            | N/A                | 0.022                             |

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

#### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.