Ficha de datos de seguridad
LAVAVETRI DP1 -45°C

Ficha de datos de seguridad del 27/8/2025, Revisión 15

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: LAVAVETRI DP1 -45°C

Código comercial: 8402

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

Uso recomendado:

Detergente para limpiaparabrisas

Uso previsto:

Consumidor, profesional, industrial.

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, Flam. Liq. 2, Líquido y vapores muy inflamables.

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

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:

H225 Líquido y vapores muy inflamables.

H319 Provoca irritación ocular grave.

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 cualquier otra fuente de ignición. No fumar.

P370+P378 En caso de incendio: Utilizar Espuma para alcoholes para la extinción.

P403+P235 Almacenar en un lugar bien ventilado. Mantener en lugar fresco.

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

Disposiciones especiales:

PACK2 El envase debe llevar una indicación de peligro detectable al tacto para invidentes.

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

Ninguna

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

2.3. Otros peligros

Ninguna sustancia PBT, mPmB o perturbador endocrino presente en concentración >=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
>= 50% - < 60%	alcohol etílico	CAS: 64-17-5 EC: 200-578-6 REACH No.: 01-2119457610-43	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 Límites de concentración específicos: C >= 50%: Eye Irrit. 2 H319
>= 5% - < 7%	Etanodiol; etilenglicol	Número Index: 603-027-00-1 CAS: 107-21-1 EC: 203-473-3 REACH No.: 01-2119456816-28	3.1/4/Oral Acute Tox. 4 H302 3.9/2 STOT RE 2 H373 (riñones) (oral)
>= 1% - < 2%	Propan-2-ol; alcohol isopropílico; isopropanol	Número Index: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 REACH No.: 01-2119457558-25	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336
>= 0,5% - < 1%	Butanona; etilmetilcetona	Número Index: 606-002-00-3 CAS: 78-93-3 EC: 201-159-0 REACH No.: 01-2119457290-43	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336 EUH066
>= 0,05% - < 0,1%	2-Metilpropan-2-ol; alcohol terc-butílico	CAS: 75-65-0 EC: 200-889-7 REACH No.: 01-2119444321-51	2.6/2 Flam. Liq. 2 H225 3.1/4/Inhal Acute Tox. 4 H332 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H335 3.8/3 STOT SE 3 H336 Estimación de la toxicidad aguda: ETA - Inhalación (Polvo o niebla) 1,5 mg/l
>= 0,001% - < 0,005%	Hidróxido de sodio; sosa cáustica	Número Index: 011-002-00-6 CAS: 1310-73-2 EC: 215-185-5 REACH No.: 02-2119457892-27	2.16/1 Met. Corr. 1 H290 3.2/1A Skin Corr. 1A H314 3.3/1 Eye Dam. 1 H318 Límites de concentración específicos: C >= 5%: Skin Corr. 1A H314 2% <= C < 5%: Skin Corr. 1B H314 0,5% <= C < 2%: Skin Irrit. 2 H315 0,5% <= C < 2%: Eye Irrit. 2 H319

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.
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, enjugarlos 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:
Tratamiento sintomático. En caso de exposición o malestar, consultar a un médico.

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).

Rociar con agua los recipientes para mantenerlos fríos.
Recoger por separado el agua contaminada utilizada para extinguir el incendio. No descargarla en la red de alcantarillado.

SECCIÓN 6. Medidas en caso de vertido accidental

6.1. Precauciones personales, equipo de protección y procedimientos de emergencia
Para el personal que no forma parte de los servicios de emergencia:
Consultar las medidas de protección expuestas en los puntos 7 y 8.
Proporcionar una ventilación adecuada.
Para el personal de emergencia:
Guantes
Consultar las medidas de protección expuestas en los puntos 7 y 8.
Quitar toda fuente de encendido.
Llevar las personas a un lugar seguro.
6.2. Precauciones relativas al medio ambiente
Conservar el agua de lavado contaminada y eliminarla.
Material apropiado para la recogida: material absorbente, orgánico, arena
6.3. Métodos y material de contención y de limpieza
Contención:

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 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.

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.

No comer, beber ni fumar durante su utilización.
7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades
LGK class = 3
Conservar solo en el recipiente original.
Consérvese en ambientes siempre bien aireados.
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

SECCIÓN 8. Controles de exposición/protección individual

8.1. Parámetros de control

alcohol etílico - CAS: 64-17-5
ACGIH - STEL: 1000 ppm - Notas: A3 - URT irr
NIOSH - Notas: Metodo raccomandato per il monitoraggio: NIOSH 1400

Etanodiol; etilenglicol - CAS: 107-21-1
UE - TWA(8h): 52 mg/m3, 20 ppm - STEL: 104 mg/m3, 40 ppm - Notas: Skin
ACGIH - STEL: 10 mg/m3 - Notas: (I, H), A4 - URT irr
NIOSH - Notas: Metodo raccomandato per il monitoraggio: NIOSH 5523

Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0
ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notas: A4, BEI - Eye and URT irr, CNS impair
NIOSH - Notas: Metodo raccomandato per il monitoraggio: NIOSH 1400

Butanona; etilmetilcetona - CAS: 78-93-3
20101.13 - TWA(8h): 590 mg/m3, 200 ppm - STEL(): 885 mg/m3, 300 ppm
UE - TWA(8h): 600 mg/m3, 200 ppm - STEL: 900 mg/m3, 300 ppm
NIOSH - Notas: Metodo raccomandato per il monitoraggio: NIOSH 2500

2-Metilpropan-2-ol; alcohol terc-butílico - CAS: 75-65-0
ACGIH - TWA(8h): 100 ppm - Notas: A4 - CNS impair
NIOSH - Notas: Metodo raccomandato per il monitoraggio: NIOSH 1401

Hidróxido de sodio; sosa cáustica - CAS: 1310-73-2
20101.10 - TWA: 2 mg/m3
ACGIH - STEL: Techo 2 mg/m3 - Notas: URT, eye, and skin irr
NIOSH - Notas: Metodo raccomandato per il monitoraggio: NIOSH 7401

Valores límites de exposición DNEL

alcohol etílico - CAS: 64-17-5
Trabajador profesional: 1900 mg/m3 - Exposición: Por inhalación humana - Frecuencia: A corto plazo (aguda)
Trabajador profesional: 950 mg/m3 - Exposición: Por inhalación humana - Frecuencia: A largo plazo, efectos sistémicos
Trabajador profesional: 343 mg/kg - Exposición: Dérmica humana - Frecuencia: A largo plazo, efectos sistémicos

Etanodiol; etilenglicol - CAS: 107-21-1
Trabajador profesional: 35 mg/m3 - Consumidor: 7 mg/m3 - Exposición: Por inhalación humana
Trabajador profesional: 106 mg/kg - Consumidor: 53 mg/kg - Exposición: Dérmica humana

Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0
Consumidor: 26 mg/kg - Exposición: Oral humana - Frecuencia: A largo plazo, efectos sistémicos
Trabajador profesional: 500 mg/m3 - Consumidor: 89 mg/m3 - Exposición: Por inhalación humana - Frecuencia: A largo plazo, efectos sistémicos
Trabajador profesional: 880 mg/kg - Consumidor: 319 mg/kg - Exposición: Dérmica humana - Frecuencia: A largo plazo, efectos sistémicos

Butanona; etilmetilcetona - CAS: 78-93-3
Consumidor: 31 mg/kg - Exposición: Oral humana - Frecuencia: A largo plazo, efectos sistémicos
Trabajador profesional: 600 mg/m3 - Consumidor: 106 mg/m3 - Exposición: Por inhalación humana - Frecuencia: A largo plazo, efectos sistémicos
Trabajador profesional: 1161 mg/kg - Consumidor: 412 mg/kg - Exposición: Dérmica humana - Frecuencia: A largo plazo, efectos sistémicos

Hidróxido de sodio; sosa cáustica - CAS: 1310-73-2
Trabajador profesional: 1 mg/m3 - Consumidor: 1 mg/l - Exposición: Por inhalación humana - Frecuencia: A largo plazo, efectos locales

Valores límites de exposición PNEC

alcohol etílico - CAS: 64-17-5
Objetivo: agua dulce - Valor: 0.96 mg/l
Objetivo: Agua marina - Valor: 0.79 mg/l
Objetivo: Sedimentos de agua dulce - Valor: 3.6 mg/kg
Objetivo: Sedimentos de agua marina - Valor: 2.9 mg/kg
Objetivo: 09 - Valor: 580 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

Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0
Objetivo: agua dulce - Valor: 140.9 mg/l
Objetivo: Agua marina - Valor: 140.9 mg/l
Objetivo: Sedimentos de agua dulce - Valor: 552 mg/kg
Objetivo: Sedimentos de agua marina - Valor: 552 mg/kg

Objetivo: Suelo (agricultura) - Valor: 28 mg/kg
Butanona; etilmetilcetona - CAS: 78-93-3
Objetivo: agua dulce - Valor: 55.8 mg/l
Objetivo: Agua marina - Valor: 55.8 mg/l
Objetivo: Sedimentos de agua dulce - Valor: 284.74 mg/l
Objetivo: Sedimentos de agua marina - Valor: 287.7 mg/l
Objetivo: 09 - Valor: 709 mg/l

8.2. Controles de la exposición

Protección de los ojos:
Gafas de seguridad
Cumple con la norma EN 166 - EN ISO 16321

Protección de la piel:
Indumentaria de protección contra agentes químicos.
Calzado de seguridad para operarios.

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
Los guantes deben seleccionarse en función del tipo específico de uso y del tiempo de permeación del material. El tiempo de permeación depende del tipo de guante, del grosor y del tipo de sustancia química. Consultar al proveedor de guantes para determinar el tiempo de permeación adecuado. Sustituir inmediatamente los guantes si se observan signos de desgaste o contaminación.

Protección respiratoria:
Si se superan los límites de exposición recomendados:
Filtro para vapores orgánicos. Tipo A. (EN14387)

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:	azul claro	--	--
Olor:	característico	--	--
Punto de fusión/punto de congelación:	N.A.	--	--
Punto de ebullición o punto inicial de ebullición e intervalo de ebullición:	82°C	arx1	--
Inflamabilidad:	Flam. Liq. 2, H225	--	--
Límite superior e inferior de explosividad:	N.A.	--	--
Punto de inflamación:	22,5 °C	08	--
Temperatura de auto-inflamación:	N.A.	--	--
Temperatura de descomposición:	N.A.	--	--
pH:	10.5	ASTM D1287	--
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:	0.904 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

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

Puede generar gases inflamables en contacto con ditiocarbamatos, mercaptanos y otros sulfuros orgánicos, elementos metálicos (alcalinos, alcalinotérreos, aleaciones en polvo o vapor) y agentes reductores fuertes.
Puede generar gases tóxicos en contacto con fluoruros inorgánicos, sustancias orgánicas halogenadas, sulfuros, nitruros, nitrilos, compuestos organofosforados, fosfotioatos, fosfoditioatos y agentes oxidantes fuertes.
Puede inflamarse en contacto con ditiocarbamatos, elementos metálicos (alcalinos, alcalinotérreos, aleaciones en polvo o vapor, láminas o barras) y nitruros.

10.4. Condiciones que deben evitarse

Calor excesivo.

10.5. Materiales incompatibles

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

10.6. Productos de descomposición peligrosos

Ninguno.

SECCIÓN 11. Información toxicológica

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

Información toxicológica del producto:

LAVAVETRI INVERNO DP1 -45°C ML. 500

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

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

No clasificado

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

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:
alcohol etílico - CAS: 64-17-5
d) sensibilización respiratoria o cutánea:
Ensayo: Sensibilización de la piel - Vía: Piel Negativo
e) mutagenicidad en células germinales:
Ensayo: Genotoxicidad - Especies: vitro Negativo
f) carcinogenicidad:
Ensayo: Carcinogenicidad - Especies: mam Positivo
g) toxicidad para la reproducción:
Ensayo: NOAEL - Vía: Inhalación - Especies: Rata = 1600 ppm
Etanodiol; etilenglicol - CAS: 107-21-1
a) toxicidad aguda:
Ensayo: LD50 - 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
Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0
a) toxicidad aguda:
Ensayo: LD50 - Vía: Oral - Especies: Rata 4396-5500 mg/kg
Ensayo: LD50 - Vía: Piel - Especies: Conejo 12870 mg/kg
Ensayo: LC50 - Vía: Inhalación - Especies: Rata 72.6 mg/l - Duración: 4h
Butanona; etilmetilcetona - CAS: 78-93-3
a) toxicidad aguda:
Ensayo: LD50 - Vía: Oral - Especies: Rata = 2737 mg/kg
Ensayo: LD50 - Vía: Piel - Especies: Conejo = 6480 mg/kg
Ensayo: LD50 - Vía: Inhalación - Especies: Rata = 23.5 mg/m3 - Duración: 4h
2-Metilpropan-2-ol; alcohol terc-butílico - CAS: 75-65-0
a) toxicidad aguda
ETA - Inhalación (Polvo o niebla) 1,5 mg/l

11.2. Información relativa a otros peligros
Propiedades de alteración endocrina:
Ningún perturbador endocrino presente en concentración >= 0.1%

SECCIÓN 12. Información ecológica

12.1. Toxicidad
Utilícese con técnicas de trabajo adecuadas, evitando la dispersión del producto en el medio ambiente.
alcohol etílico - CAS: 64-17-5
a) Toxicidad acuática aguda:
Parámetro: LC50 - Especies: Peces 14.2 GL - Duración h.: 96
Parámetro: LC50 - Especies: Daphnia 29.6 GL - Duración h.: 24
Parámetro: EC50 - Especies: Algas 19000 mg/l - Duración h.: 96
Parámetro: EC50 - Especies: batteri 39.5 GL - Duración h.: 4
b) Toxicidad acuática crónica:
Parámetro: EC50 - Especies: Peces 14536 mg/l - Duración h.: 200
Parámetro: LC50 - Especies: Daphnia 9248 mg/l - Duración h.: 48
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:
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
Butanona; etilmetilcetona - CAS: 78-93-3
a) Toxicidad acuática aguda:
Parámetro: LC50 - Especies: Peces = 3220 mg/l - Duración h.: 96
Parámetro: EC50 - Especies: Daphnia = 5091 mg/l - Duración h.: 96
Hidróxido de sodio; sosa cáustica - CAS: 1310-73-2
a) Toxicidad acuática aguda:
Parámetro: EC50 - Especies: Daphnia 40.4 mg/l - Duración h.: 48
12.2. Persistencia y degradabilidad
Ninguno
Etanodiol; etilenglicol - CAS: 107-21-1
Biodegradabilidad: Rápidamente degradable - Ensayo: BIOGDG13 - Duración h.: .10gg - %: 90-10
Butanona; etilmetilcetona - CAS: 78-93-3
Biodegradabilidad: Rápidamente degradable
12.3. Potencial de bioacumulación
Etanodiol; etilenglicol - CAS: 107-21-1

Bioacumulación: No bioacumulable
Propan-2-ol; alcohol isopropílico; isopropanol - CAS: 67-63-0
Ensayo: Kow - Coeficiente de reparto 0.05
Butanona; etilmetilcetona - CAS: 78-93-3
Ensayo: Kow - Coeficiente de reparto 0.3
Hidróxido de sodio; sosa cáustica - CAS: 1310-73-2
Bioacumulación: No bioacumulable

12.4. Movilidad en el suelo
Etanodiol; etilenglicol - CAS: 107-21-1
Movilidad en el suelo: Móvil
Hidróxido de sodio; sosa cáustica - CAS: 1310-73-2
Movilidad en el suelo: No 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 >= 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:
El producto sobrante 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 el producto a plantas de eliminación autorizadas o incineración en condiciones controladas. Los embalajes pueden llevarse a recogida selectiva si se vacían de su contenido, comprobando la normativa de su municipio. En caso contrario, siempre es necesario llevarlo a un centro autorizado o a la isla ecológica de cada municipio.

SECCIÓN 14. Información relativa al transporte

14.1. Número ONU o número ID

ADR-UN Number:	1987
IATA-UN Number:	1987
IMDG-UN Number:	1987

14.2. Designación oficial de transporte de las Naciones Unidas

ADR-Shipping Name:	ALCOHOLES INFLAMABLES, N.E.P. (alcohol etílico, propan-2-ol; alcohol isopropílico; isopropanol)
IATA-Shipping Name:	ALCOHOLES INFLAMABLES, N.E.P. (alcohol etílico, propan-2-ol; alcohol isopropílico; isopropanol)
IMDG-Shipping Name:	ALCOHOLES INFLAMABLES, N.E.P. (alcohol etílico, propan-2-ol; alcohol isopropílico; isopropanol)

14.3. Clase(s) de peligro para el transporte

ADR-Class:	3
ADR - Número de identificación del peligro:	33
IATA-Class:	3
IATA-Label:	3
IMDG-Class:	3
IMDG-Clase:	3. PG II

14.4. Grupo de embalaje

ADR-Packing Group:	II
IATA-Packing group:	II
IMDG-Packing group:	II

14.5. Peligros para el medio ambiente

ADR-Contaminante ambiental:	No
IMDG-Marine pollutant:	No
IMDG-EmS:	F-E, S-D

14.6. Precauciones particulares para los usuarios

ADR-Subsidiary hazards:	-
ADR-S.P.:	274 601 640D
ADR-Categoria de transporte (Código de restricción en túneles):	2 (D/E)
IATA-Passenger Aircraft:	353

IATA-Subsidiary hazards: -
IATA-Cargo Aircraft: 364
IATA-S.P.: A3 A180
IATA-ERG: 3L
IMDG-Subsidiary hazards: -
IMDG-Stowage and handling: Category A
IMDG-Segregation: -

14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI
N.A.
Limited Quantity: 1 L
Exempted Quantity: E2

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 quí?micos 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)
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)
Reglamento (UE) 2023/707
Reglamento (UE) n. 2023/1434 (ATP 19 CLP)
Reglamento (UE) n. 2023/1435 (ATP 20 CLP)
Reglamento (UE) n. 2024/197 (ATP 21 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 = 63.06 %
Compuestos orgánicos volátiles - COV = 630.58 g/Kg
Compuestos orgánicos volátiles - COV = 570.04 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: P5c

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
alcohol etílico
Etanodiol; etilenglicol
Propan-2-ol; alcohol isopropílico; isopropanol

SECCIÓN 16. Otra información

Texto de las frases utilizadas en el párrafo 3:
H225 Líquido y vapores muy inflamables.

H319 Provoca irritación ocular grave.
H302 Nocivo en caso de ingestión.
H373 (riñones) (oral) Puede provocar daños en los órganos (riñones) tras exposiciones prolongadas o repetidas por ingestión.
H336 Puede provocar somnolencia o vértigo.
EUH066 La exposición repetida puede provocar sequedad o formación de grietas en la piel.
H332 Nocivo en caso de inhalación.
H335 Puede irritar las vías respiratorias.
H290 Puede ser corrosivo para los metales.
H314 Provoca quemaduras graves en la piel y lesiones oculares graves.
H318 Provoca lesiones oculares graves.
H315 Provoca irritación cutánea.

Clase y categoría de peligro	Código	Descripción
Met. Corr. 1	2.16/1	Corrosivos para los metales, Categoría 1
Flam. Liq. 2	2.6/2	Líquidos inflamables, Categoría 2
Acute Tox. 4	3.1/4/Inhal	Toxicidad aguda (por inhalación), Categoría 4
Acute Tox. 4	3.1/4/Oral	Toxicidad aguda (oral), Categoría 4
Skin Corr. 1A	3.2/1A	Corrosión cutánea, Categoría 1A
Skin Corr. 1B	3.2/1B	Corrosión cutánea, Categoría 1B
Skin Irrit. 2	3.2/2	Irritación cutánea, Categoría 2
Eye Dam. 1	3.3/1	Lesiones oculares graves, Categoría 1
Eye Irrit. 2	3.3/2	Irritación ocular, Categoría 2
STOT SE 3	3.8/3	Toxicidad específica en determinados órganos (exposiciones única), Categoría 3
STOT SE 3	3.8/3	Toxicidad específica en determinados órganos (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 6. Medidas en caso de vertido accidental

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	Procedimento de clasificación
Flam. Liq. 2, H225	Conforme a datos obtenidos de los ensayos
Eye Irrit. 2, H319	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 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:	Coeficiente 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, 23/07/2019

Substance identity	
Chemical name	Etanolo
CAS No.	64-17-5
EINECS No.	200-578-6

Table of contents

1. ES 1 Consumer use; Anti-freeze and de-icing products (PC4)

1.1 TITLE SECTION

Exposure Scenario name	Car care and maintenance products - De-icing and anti-icing applications
Date - Version	22/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Anti-freeze and de-icing products (PC4)

Environment Contributing Scenario	
CS1 Covered by	ERC8d
Consumer Contributing Scenario	
CS2 Car Care - De-icing and anti-icing applications	PC4 - PC4_1
CS3 Car Care - De-icing and anti-icing applications	PC4 - PC4_2
CS4 Car Care - De-icing and anti-icing applications	PC4 - PC4_3

1.2 Conditions of use affecting exposure

1.2. 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:
5726 Pa

Conditions and measures related to treatment of waste (including article waste)

Waste treatment
No specific measures identified.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10

1.2. CS2: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)
Product (Sub-)Categories	Washing car window (PC4_1)

Product (article) characteristics

Concentration of substance in product:
Covers percentage substance in the product up to 1 %.

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 0.5 g

Duration:
Covers use up to 0.017 h/event
Frequency:

Covers use up to 1 uses per day

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m³) under typical ventilation.
Temperature: Covers use at ambient temperatures.

1.2. CS3: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)
Product (Sub-)Categories	Pouring into radiator (PC4_2)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 2000 g

Duration:
Covers use up to 0.17 h/event
Frequency:
Covers use up to 1 uses per day

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m³) under typical ventilation.
Temperature: Covers use at ambient temperatures.

Additional conditions human health
Covers skin contact area up to 482 cm²

1.2. CS4: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)
Product (Sub-)Categories	Lock de-icer (PC4_3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 4 g

Duration:
Covers use up to 0.25 h/event
Frequency:
Covers use up to 1 uses per day

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m³) under typical ventilation.
Temperature: Covers use at ambient temperatures.

Additional conditions human health
Covers skin contact area up to 214 cm²

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario: Covered by (ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.00443 mg/L	N/A	0.00461
freshwater sediment	0.0172 mg/kg bw/day	N/A	0.00467
marine water	0.000508 mg/L	N/A	0.000643
marine sediment	0.00194 mg/kg bw/day	N/A	0.00064
soil	0.00123 mg/kg bw/day	N/A	0.00724

1.2. CS2: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.000102 mg/m³	N/A	8.94E-07
inhalative, local, short-term	0.000102 mg/m³	N/A	8.94E-07
dermal, systemic, long-term	0 mg/kg bw/day	N/A	N/A
combined routes, systemic, long-term	N/A	N/A	8.94E-07

1.2. CS3: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	1.84 mg/m³	N/A	0.0161
inhalative, local, short-term	1.84 mg/m³	N/A	0.0161
dermal, systemic, long-term	5.62 mg/kg bw/day	N/A	0.0272
combined routes, systemic, long-term	N/A	N/A	0.0434

1.2. CS4: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.51 mg/m³	N/A	0.00447
inhalative, local, short-term	0.51 mg/m³	N/A	0.0447
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.0679
combined routes, systemic, long-term	N/A	N/A	0.0724

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 Consumer use; Various products (PC39, PC28)

2.1 TITLE SECTION

Exposure Scenario name	Cosumer other uses
Date - Version	22/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Cosmetics, personal care products (PC39) - Perfumes, fragrances (PC28)

Environment Contributing Scenario

CS1 Covered by	ERC8a

Consumer Contributing Scenario

CS2 Consumer	PC39 - PC28

2.2 Conditions of use affecting exposure

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

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

5726 Pa

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

No specific measures identified.

2.2. CS2: Consumer Contributing Scenario: Consumer (PC39, PC28)

Product Categories	Cosmetics, personal care products - Perfumes, fragrances (PC39, PC28)

2.3 Exposure estimation and reference to its source

2.3. CS1: Environment Contributing Scenario: Covered by (ERC8a)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.00236 mg/L	N/A	0.00246
freshwater sediment	0.00904 mg/kg bw/day	N/A	0.00246
marine water	0.000301 mg/L	N/A	0.000381
marine sediment	0.00115 mg/kg bw/day	N/A	0.00038
soil	0.00115 mg/kg bw/day	N/A	0.00676

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 Use at industrial site

3.1 TITLE SECTION

Exposure Scenario name	Solvent
Date - Version	22/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3)

Environment Contributing Scenario	
CS1 Covered by	ERC4
Worker Contributing Scenario	
CS2 Industrial	PROC1
CS3 Industrial	PROC2
CS4 Industrial	PROC3
CS5 Industrial	PROC4
CS6 Industrial	PROC5
CS7 Industrial	PROC7
CS8 Industrial	PROC8a
CS9 Industrial	PROC8b
CS10 Industrial	PROC10
CS11 Industrial	PROC13
CS12 Industrial	PROC15

3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Covered by (ERC4)

Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Product (article) characteristics

Vapour pressure:
< 10 kPa

Amount used, frequency and duration of use (or from service life)

Amounts used:
Annual site tonnage 3000 t(onnes)/year

Maximum allowable site tonnage (MSafe): 124000 kg/day

Release type: Continuous release

Emission days: 300 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 90 %
Prevent discharge of undissolved substance to or recover from onsite wastewater.	Water - minimum efficiency of: 87 %

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
STP effluent (m³/day): 2000

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

Incineration, disposal or recycling at specific offsite provider Contain and dispose of waste according to local regulations.	Waste - minimum efficiency of: 99.98 %

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 2000 m³/h

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:
Contain leaks or spills within cabinets with removable trays.

3.2. CS2: Worker Contributing Scenario: Industrial (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

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. 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

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. 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

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS5: Worker Contributing Scenario: Industrial (PROC4)

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

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS6: Worker Contributing Scenario: Industrial (PROC5)

Process Categories	Mixing or blending in batch processes (PROC5)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS7: Worker Contributing Scenario: Industrial (PROC7)

Process Categories	Industrial spraying (PROC7)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.
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
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS8: Worker Contributing Scenario: Industrial (PROC8a)

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

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS9: Worker Contributing Scenario: Industrial (PROC8b)

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

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS10: Worker Contributing Scenario: Industrial (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS11: Worker Contributing Scenario: Industrial (PROC13)

Process Categories	Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS12: Worker Contributing Scenario: Industrial (PROC15)

Process Categories	Use as laboratory reagent (PROC15)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Use in contained systems
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.3 Exposure estimation and reference to its source

3.3. CS1: Environment Contributing Scenario: Covered by (ERC4)

Release route	Release rate	Release estimation method
Air	0.98 %	N/A
Water	0.01 %	N/A
soil	0 %	N/A

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	6.32 mg/L	N/A	0.0109
freshwater	0.577 mg/L	N/A	0.601
freshwater sediment	2.21 mg/kg bw/day	N/A	0.601
marine water	0.0635 mg/L	N/A	0.0804
marine sediment	0.0635 mg/kg bw/day	N/A	0.0805
soil	0.0525 mg/kg bw/day	N/A	0.309

3.3. CS2: Worker Contributing Scenario: Industrial (PROC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m³	N/A	< 0.01
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.01
combined routes, systemic, long-term	N/A	N/A	< 0.01

3.3. CS3: Worker Contributing Scenario: Industrial (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m³	N/A	0.01
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0141

3.3. CS4: Worker Contributing Scenario: Industrial (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.0222

3.3. CS5: Worker Contributing Scenario: Industrial (PROC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)

inhalative, systemic, long-term	38 mg/m³	N/A	0.04
dermal, systemic, long-term	6.9 mg/kg bw/day	N/A	0.02
combined routes, systemic, long-term	N/A	N/A	0.0603

3.3. CS6: Worker Contributing Scenario: Industrial (PROC5)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

3.3. CS7: Worker Contributing Scenario: Industrial (PROC7)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	140 mg/m³	N/A	0.151
dermal, systemic, long-term	43 mg/kg bw/day	N/A	0.125
combined routes, systemic, long-term	N/A	N/A	0.276

3.3. CS8: Worker Contributing Scenario: Industrial (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	96 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

3.3. CS9: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	48 mg/m³	N/A	0.05
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.0904

3.3. CS10: Worker Contributing Scenario: Industrial (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)

inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	27 mg/kg bw/day	N/A	0.08
combined routes, systemic, long-term	N/A	N/A	0.181

3.3. CS11: Worker Contributing Scenario: Industrial (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

3.3. CS12: Worker Contributing Scenario: Industrial (PROC15)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.01
combined routes, systemic, long-term	N/A	N/A	0.0212

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 Use at industrial site

4.1 TITLE SECTION

Exposure Scenario name	Fuel
Date - Version	22/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3)

Environment Contributing Scenario	
CS1 Covered by	ERC7
Worker Contributing Scenario	
CS2 Industrial	PROC1
CS3 Industrial	PROC2
CS4 Industrial	PROC3
CS5 Industrial	PROC8a
CS6 Industrial	PROC8b
CS7 Industrial	PROC15
CS8 Industrial	PROC16

4.2 Conditions of use affecting exposure

4.2. CS1: Environment Contributing Scenario: Covered by (ERC7)

Environmental release categories	Use of functional fluid at industrial site (ERC7)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

< 10 kPa

Amount used, frequency and duration of use (or from service life)

Amounts used:

Annual site tonnage 20000 t(onnes)/year

Maximum allowable site tonnage (MSafe): 14500000 kg/day

Release type: Continuous release

Emission days: 300 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Provide onsite wastewater removal efficiency of [3] (%):	Water - minimum efficiency of: 87 %

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 87 %
STP effluent (m³/day): 2000

Conditions and measures related to treatment of waste (including article waste)

Waste treatment
Product residual disposal complies with applicable regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 2000 m³/day

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:
Adequate closed storage facilities (e.g., bulk storage tanks, intermediate bulk containers, drums) are required.

4.2. CS2: Worker Contributing Scenario: Industrial (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

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

4.2. 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

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

4.2. 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

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

4.2. CS5: Worker Contributing Scenario: Industrial (PROC8a)

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

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures
Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

4.2. CS6: Worker Contributing Scenario: Industrial (PROC8b)

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

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures

Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

4.2. CS7: Worker Contributing Scenario: Industrial (PROC15)

Process Categories	Use as laboratory reagent (PROC15)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures

Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

4.2. CS8: Worker Contributing Scenario: Industrial (PROC16)

Process Categories	Use of fuels (PROC16)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

< 10 kPa

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

Technical and organisational conditions and measures

Technical and organisational measures

Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

4.3 Exposure estimation and reference to its source

4.3. CS1: Environment Contributing Scenario: Covered by (ERC7)

Release route	Release rate	Release estimation method
Air	0.0025 %	N/A
Water	1E-05 %	N/A
soil	0 %	N/A

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.0421 mg/L	N/A	7.26E-05
freshwater	0.00657 mg/L	N/A	0.00684
freshwater sediment	0.00685 mg/kg bw/day	N/A	0.00685
marine water	0.00363 mg/L	N/A	0.00459
marine sediment	0.0139 mg/kg bw/day	N/A	0.00459
soil	0.00694 mg/kg bw/day	N/A	0.0408

4.3. CS2: Worker Contributing Scenario: Industrial (PROC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.019 mg/m³	N/A	< 0.001
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	< 0.001

4.3. CS3: Worker Contributing Scenario: Industrial (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m³	N/A	0.01
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0222

4.3. CS4: Worker Contributing Scenario: Industrial (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.222

4.3. CS5: Worker Contributing Scenario: Industrial (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/m³	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

4.3. CS6: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	48 mg/m³	N/A	0.05
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.0904

4.3. CS7: Worker Contributing Scenario: Industrial (PROC15)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001

combined routes, systemic, long-term	N/A	N/A	0.0112

4.3. CS8: Worker Contributing Scenario: Industrial (PROC16)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m³	N/A	0.01
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	0.0111

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.

5. ES 5 Widespread use by professional workers

5.1 TITLE SECTION

Exposure Scenario name	Solvent
Date - Version	23/07/2019 - 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	PROC5 - PROC8a
CS7 General use from professional operators	PROC8b
CS8 General use from professional operators	PROC10
CS9 General use from professional operators	PROC11
CS10 General use from professional operators	PROC11
CS11 General use from professional operators	PROC13
CS12 General use from professional operators	PROC19

5.2 Conditions of use affecting exposure

5.2. 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) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Amount used, frequency and duration of use (or from service life)

Amounts used:

Annual site tonnage 0.1 t(onnes)/year

Maximum allowable site tonnage (MSafe): 715 kg/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 90 %
Prevent discharge of undissolved substance to or recover from onsite wastewater.	

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

Hazardous waste incineration	Waste - minimum efficiency of: 99.98 %

5.2. 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, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.

5.2. CS3: Worker Contributing Scenario: General use from professional operators (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

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.

5.2. CS4: Worker Contributing Scenario: General use from professional operators (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

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.

5.2. 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, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.

5.2. CS6: Worker Contributing Scenario: General use from professional operators (PROC5, PROC8a)

Process Categories	Mixing or blending in batch processes - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC5, PROC8a)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.

5.2. CS7: 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, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.

5.2. 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, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.

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

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

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

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

Use suitable eye protection.
Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Indoor use

5.2. CS10: Worker Contributing Scenario: General use from professional operators (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

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

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

Use suitable eye protection.
Wear suitable gloves tested to EN374.
Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Outdoor use

5.2. CS11: Worker Contributing Scenario: General use from professional operators (PROC13)

Process Categories	Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.
Wear suitable gloves tested to EN374.

5.2. CS12: Worker Contributing Scenario: General use from professional operators (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

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

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

Personal protection

Use suitable eye protection.
Wear suitable gloves tested to EN374.

5.3 Exposure estimation and reference to its source

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

Release route	Release rate	Release estimation method
Air	0.98 %	N/A
Water	0.01 %	N/A

soil	0.01 %	N/A

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.000173 mg/L	N/A	2.98E-07
freshwater	0.00238 mg/L	N/A	0.00248
freshwater sediment	0.00912 mg/kg bw/day	N/A	0.00248
marine sediment	0.000303 mg/L	N/A	0.000384
marine sediment	0.00116 mg/kg bw/day	N/A	0.000383
soil	0.00116 mg/kg bw/day	N/A	0.00682

5.3. 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	0.019 mg/m³	N/A	< 0.001
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	< 0.001

5.3. 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	38 mg/m³	N/A	0.04
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0443

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	48 mg/m³	N/A	0.05
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.0524

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	6.9 mg/kg bw/day	N/A	0.02
combined routes, systemic, long-term	N/A	N/A	0.121

5.3. CS6: Worker Contributing Scenario: General use from professional operators (PROC5, PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	190 mg/m³	N/A	0.202
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.242

5.3. CS7: 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	96 mg/m³	N/A	0.202
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	190 mg/m³	N/A	0.202
dermal, systemic, long-term	27 mg/kg bw/day	N/A	0.08
combined routes, systemic, long-term	N/A	N/A	0.282

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	290 mg/m³	N/A	0.303
dermal, systemic, long-term	21 mg/kg bw/day	N/A	0.062
combined routes, systemic, long-term	N/A	N/A	0.365

5.3. CS10: 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	67 mg/m³	N/A	0.071
dermal, systemic, long-term	21 mg/kg bw/day	N/A	0.062
combined routes, systemic, long-term	N/A	N/A	0.133

5.3. CS11: Worker Contributing Scenario: General use from professional operators (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	190 mg/m³	N/A	0.202
dermal, systemic, long-term	2.7 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.21

5.3. CS12: Worker Contributing Scenario: General use from professional operators (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	190 mg/m³	N/A	0.202
dermal, systemic, long-term	28 mg/kg bw/day	N/A	0.082
combined routes, systemic, long-term	N/A	N/A	0.284

5.4 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.

6. ES 6 Widespread use by professional workers

6.1 TITLE SECTION

Exposure Scenario name	Fuel
Date - Version	23/07/2019 - 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	ERC9a - ERC9b

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	PROC8a
CS6 General use from professional operators	PROC8b
CS7 General use from professional operators	PROC16

6.2 Conditions of use affecting exposure

6.2. CS1: Environment Contributing Scenario: Covered by (ERC9a, ERC9b)

Environmental release categories	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Amount used, frequency and duration of use (or from service life)

Amounts used:

Annual site tonnage 1 t(onnes)/year

Maximum allowable site tonnage (MSafe): 7190 kg/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Prevent discharge of undissolved substance to or recover from onsite wastewater.

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

Product residual disposal complies with applicable regulations.

6.2. 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, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Technical and organisational measures

Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

6.2. CS3: Worker Contributing Scenario: General use from professional operators (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

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Technical and organisational measures

Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

6.2. CS4: Worker Contributing Scenario: General use from professional operators (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

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Technical and organisational measures

Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

6.2. CS5: 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, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Technical and organisational measures
Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

6.2. 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, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Technical and organisational measures
Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

6.2. CS7: Worker Contributing Scenario: General use from professional operators (PROC16)

Process Categories	Use of fuels (PROC16)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Technical and organisational measures
Handle substance within a closed system.
Store substance within a closed system.

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

Personal protection
Use suitable eye protection.

6.3 Exposure estimation and reference to its source

6.3. CS1: Environment Contributing Scenario: Covered by (ERC9a, ERC9b)

Release route	Release rate	Release estimation method
Air	0.01 %	N/A
Water	1E-05 %	N/A

soil	0 %	N/A

6.3. 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	0.019 mg/m³	N/A	< 0.001
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	< 0.001

6.3. 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	38 mg/m³	N/A	0.04
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0443

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	48 mg/m³	N/A	0.05
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.0524

6.3. CS5: 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	190 mg/m³	N/A	0.202
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.242

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04

combined routes, systemic, long-term	N/A	N/A	0.141

6.3. CS7: Worker Contributing Scenario: General use from professional operators (PROC16)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	0.0212

6.4 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.

7. ES 7 Consumer use; Fuels (PC13)

7.1 TITLE SECTION

Exposure Scenario name	Fuel
Date - Version	23/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Fuels (PC13)

Environment Contributing Scenario

CS1 Covered by	ERC9b

Consumer Contributing Scenario

CS2 Consumer	PC13 - PC13_1
CS3 Consumer	PC13 - PC13_2
CS4 Consumer	PC13 - PC13_3
CS5 Consumer	PC13 - PC13_4

7.2 Conditions of use affecting exposure

7.2. CS1: Environment Contributing Scenario: Covered by (ERC9b)

Environmental release categories	Widespread use of functional fluid (outdoor) (ERC9b)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
5726 Pa

Conditions and measures related to treatment of waste (including article waste)

Waste treatment
Product residual disposal complies with applicable regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10

7.2. CS2: Consumer Contributing Scenario: Consumer (PC13)

Product Categories	Fuels (PC13)
Product (Sub-)Categories	Liquid: Automotive Refuelling (PC13_1)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 85 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 37500 g

Duration:
Exposure duration 0.05 h/event
Frequency:
Covers use up to 51 times per year

Other conditions affecting consumers exposure

Outdoor use

Additional conditions human health
Covers skin contact area up to 210 cm²

7.2. CS3: Consumer Contributing Scenario: Consumer (PC13)

Product Categories	Fuels (PC13)
Product (Sub-)Categories	Liquid Scooter Refuelling (PC13_2)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 85 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 37500 g

Duration:
Exposure duration 0.033 h/event
Frequency:
Covers use up to 51 times per year

Other conditions affecting consumers exposure

Outdoor use

Additional conditions human health
Covers skin contact area up to 210 cm²

7.2. CS4: Consumer Contributing Scenario: Consumer (PC13)

Product Categories	Fuels (PC13)
Product (Sub-)Categories	Liquid, Garden equipment - Use (PC13_3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 750 g

Duration:
Exposure duration 2 h/event
Frequency:
Covers use up to 25 times per year

Other conditions affecting consumers exposure

Outdoor use

Additional conditions human health
Covers skin contact area up to 210 cm²

7.2. CS5: Consumer Contributing Scenario: Consumer (PC13)

Product Categories	Fuels (PC13)

Product (Sub-)Categories	Liquid: Garden equipment - Refuelling (PC13_4)

Product (article) characteristics

Concentration of substance in product:

Covers concentrations up to 85 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 750 g

Duration:

Exposure duration 0.05 h/event

Frequency:

Covers use up to 25 times per year

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m³) under typical ventilation.

Temperature: Covers use at ambient temperatures.

Additional conditions human health

Covers skin contact area up to 210 cm²

7.3 Exposure estimation and reference to its source

7.3. CS1: Environment Contributing Scenario: Covered by (ERC9b)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.0236 mg/L	N/A	0.00246
freshwater sediment	0.00905 mg/kg bw/day	N/A	0.00246
marine water	0.0003 mg/L	N/A	0.00038
marine sediment	0.0015 mg/kg bw/day	N/A	0.00038
marine sediment	0.0015 mg/kg bw/day	N/A	0.00676

7.2. CS2: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.187 mg/m³	N/A	0.00164
inhalative, local, short-term	1.3 mg/m³	N/A	0.0114
dermal, systemic, long-term	0.117 mg/kg bw/day	N/A	8.1E-05
combined routes, systemic, long-term	N/A	N/A	0.0114

7.2. CS3: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0612 mg/m³	N/A	0.000544

inhalative, local, short-term	0.434 mg/m³	N/A	0.0038
dermal, systemic, long-term	0.117 mg/kg bw/day	N/A	8.1E-05
combined routes, systemic, long-term	N/A	N/A	0.00388

7.2. CS4: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0764 mg/m³	N/A	0.00067
inhalative, local, short-term	1.09 mg/m³	N/A	0.00956
dermal, systemic, long-term	4.13 mg/kg bw/day	N/A	0.0014
combined routes, systemic, long-term	N/A	N/A	0.0109

7.2. CS5: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.079 mg/m³	N/A	0.000692
inhalative, local, short-term	1.12 mg/m³	N/A	0.00982
dermal, systemic, long-term	0.117 mg/kg bw/day	N/A	3.98E-05
combined routes, systemic, long-term	N/A	N/A	0.00986

7.4 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.

8. ES 8 Consumer use; Various products (PC1, PC3, PC8, PC18, PC23)

8.1 TITLE SECTION

Exposure Scenario name	Cosumer other uses
Date - Version	23/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Adhesives, sealants (PC1) - Air care products (PC3) - Biocidal products (PC8) - Ink and toners (PC18) - Leather treatment products (PC23) - Lubricants, greases, release products (PC24) - Plant protection products (PC27) - Polishes and wax blends (PC31) - Textile dyes and impregnating products (PC34)

Environment Contributing Scenario

CS1 Covered by	ERC8a - ERC8d

Consumer Contributing Scenario

CS2 Consumer	PC1 - PC1_1
CS3 Consumer	PC1 - PC1_3
CS4 Consumer	PC1 - PC1_4
CS5 Consumer	PC3 - PC3_1
CS6 Consumer	PC3 - PC3_2
CS7 Consumer	PC8 - PC35_1, PC8_1
CS8 Consumer	PC8 - PC8_2, PC35_2
CS9 Consumer	PC8 - PC8_3, PC35_3
CS10 Consumer	PC18
CS11 Consumer	PC23 - PC23_1, PC31_1
CS12 Consumer	PC23 - PC23_2, PC31_2
CS13 Consumer	PC24 - PC16_1, PC17_1, PC24_1, 36
CS14 Consumer	PC27
CS15 Consumer	PC31 - PC23_1, PC31_1
CS16 Consumer	PC31 - PC23_2, PC31_2

8.2 Conditions of use affecting exposure

8.2. 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) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 10 kPa at STP

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

Hazardous waste incineration	Waste - minimum efficiency of: 99.8 %

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 2000 m³/day

8.2. CS2: Consumer Contributing Scenario: Consumer (PC1)

Product Categories	Adhesives, sealants (PC1)
Product (Sub-)Categories	Glues, hobby use (PC1_1)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 70 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 4 h/event
Frequency:
Covers exposure up to 1 events per day

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Additional conditions human health
Covers skin contact area up to 35 cm²

8.2. CS3: Consumer Contributing Scenario: Consumer (PC1)

Product Categories	Adhesives, sealants (PC1)
Product (Sub-)Categories	Glue from spray (PC1_3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 30 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 4 h/event
Frequency:
Covers exposure up to 6 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Additional conditions human health
Covers skin contact area up to 35 cm²

8.2. CS4: Consumer Contributing Scenario: Consumer (PC1)

Product Categories	Adhesives, sealants (PC1)

Product (Sub-)Categories	Sealants (PC1_4)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 30 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 1 h/event

Frequency:
Covers exposure up to 1 events per day

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Additional conditions human health
Covers skin contact area up to 35 cm²

8.2. CS5: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)
Product (Sub-)Categories	Air care, instant action (aerosol sprays) (PC3_1)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 40 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 0.3 h/event

Frequency:
Covers exposure up to 4 events per day

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Additional conditions human health
Covers skin contact area up to 35 cm²

8.2. CS6: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)
Product (Sub-)Categories	Air care, continuous action (solid and liquid) (PC3_2)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 8 h/event

Frequency:

Covers exposure up to 1 events per day

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Additional conditions human health

Covers skin contact area up to 35 cm²

8.2. CS7: Consumer Contributing Scenario: Consumer (PC8)

Product Categories	Biocidal products (PC8)
Product (Sub-)Categories	Laundry and dish washing products (PC35_1, PC8_1)

Product (article) characteristics

Concentration of substance in product:

Covers percentage substance in the product up to 5 %.

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 15 g

Duration:

Exposure duration 0.5 h/event

Frequency:

Covers exposure up to 1 events per day

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Additional conditions human health

Covers skin contact area up to 857 cm²

8.2. CS8: Consumer Contributing Scenario: Consumer (PC8)

Product Categories	Biocidal products (PC8)
Product (Sub-)Categories	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 percentage substance in the product up to 5 %.

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 50 g

Duration:

Exposure duration 0.3 h/event

Frequency:

Covers exposure up to 125 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Additional conditions human health

Covers skin contact area up to 857 cm²

8.2. CS9: Consumer Contributing Scenario: Consumer (PC8)

Product Categories	Biocidal products (PC8)
Product (Sub-)Categories	Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (PC8_3, PC35_3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 0.2 h/event

Frequency:
Covers exposure up to 125 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 428 cm²

8.2. CS10: Consumer Contributing Scenario: Consumer (PC18)

Product Categories	Ink and toners (PC18)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 8 h/event

Frequency:
Covers exposure up to 1 uses per day

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 71 cm²

8.2. CS11: Consumer Contributing Scenario: Consumer (PC23)

Product Categories	Leather treatment products (PC23)
Product (Sub-)Categories	Polishes, wax/cream (floor, furniture, shoes) (PC23_1, PC31_1)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 1.2 h/event

Frequency:
Covers exposure up to 29 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 430 cm²

8.2. CS12: Consumer Contributing Scenario: Consumer (PC23)

Product Categories	Leather treatment products (PC23)
Product (Sub-)Categories	Polishes, spray (furniture, shoes) (PC23_2, PC31_2)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 0.3 h/event
Frequency:
Covers exposure up to 8 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 430 cm²

8.2. CS13: Consumer Contributing Scenario: Consumer (PC24)

Product Categories	Lubricants, greases, release products (PC24)
Product (Sub-)Categories	Liquids (PC16_1, PC17_1, PC24_1, 36)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 0.2 h/event
Frequency:
Covers exposure up to 4 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 468 cm²

8.2. CS14: Consumer Contributing Scenario: Consumer (PC27)

Product Categories	Plant protection products (PC27)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 0.3 h/event

Frequency:
Covers exposure up to 29 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 857 cm²

8.2. CS15: Consumer Contributing Scenario: Consumer (PC31)

Product Categories	Polishes and wax blends (PC31)
Product (Sub-)Categories	Polishes, wax/cream (floor, furniture, shoes) (PC23_1, PC31_1)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 1.2 h/event

Frequency:
Covers exposure up to 29 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 430 cm²

8.2. CS16: Consumer Contributing Scenario: Consumer (PC31)

Product Categories	Polishes and wax blends (PC31)
Product (Sub-)Categories	Polishes, spray (furniture, shoes) (PC23_2, PC31_2)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 50 g

Duration:
Exposure duration 0.3 h/event

Frequency:
Covers exposure up to 8 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health

Covers skin contact area up to 430 cm²

8.3 Exposure estimation and reference to its source

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

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.273 mg/L	N/A	0.000471
freshwater	0.0297 mg/L	N/A	0.0309
freshwater sediment	0.114 mg/kg bw/day	N/A	0.031
marine water	0.00304 mg/L	N/A	0.00385
marine sediment	0.0116 mg/kg bw/day	N/A	0.00383
soil	0.116 mg/kg bw/day	N/A	0.00676

8.2. CS2: Consumer Contributing Scenario: Consumer (PC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	111 mg/m³	N/A	0.973
inhalative, local, short-term	111 mg/m³	N/A	0.973
dermal, systemic, long-term	3.28 mg/kg bw/day	N/A	0.0159
combined routes, systemic, long-term	N/A	N/A	0.989

8.2. CS3: Consumer Contributing Scenario: Consumer (PC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.788 mg/m³	N/A	0.00682
inhalative, local, short-term	47.3 mg/m³	N/A	0.414
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.000112
combined routes, systemic, long-term	N/A	N/A	0.212

8.2. CS4: Consumer Contributing Scenario: Consumer (PC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)

inhalative, systemic, long-term	23.5 mg/m³	N/A	0.206
inhalative, local, short-term	23.5 mg/m³	N/A	0.206
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.00679
combined routes, systemic, long-term	N/A	N/A	0.212

8.2. CS5: Consumer Contributing Scenario: Consumer (PC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	38.7 mg/m³	N/A	0.339
inhalative, local, short-term	38.7 mg/m³	N/A	0.339
dermal, systemic, long-term	7.51 mg/kg bw/day	N/A	0.0364
combined routes, systemic, long-term	N/A	N/A	0.375

8.2. CS6: Consumer Contributing Scenario: Consumer (PC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	17.1 mg/m³	N/A	0.15
inhalative, local, short-term	17.1 mg/m³	N/A	0.15
dermal, systemic, long-term	0.469 mg/kg bw/day	N/A	0.00227
combined routes, systemic, long-term	N/A	N/A	0.152

8.2. CS7: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.672 mg/m³	N/A	0.00589
inhalative, local, short-term	0.672 mg/m³	N/A	0.00589
dermal, systemic, long-term	5.63 mg/kg bw/day	N/A	0.000273
combined routes, systemic, long-term	N/A	N/A	0.00616

8.2. CS8: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.543 mg/m³	N/A	0.00476
inhalative, local, short-term	1.55 mg/m³	N/A	0.0135

dermal, systemic, long-term	5.63 mg/kg bw/day	N/A	0.00956
combined routes, systemic, long-term	N/A	N/A	0.0231

8.2. CS9: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.885 mg/m³	N/A	0.00776
inhalative, local, short-term	2.52 mg/m³	N/A	0.0221
dermal, systemic, long-term	8.43 mg/kg bw/day	N/A	0.0143
combined routes, systemic, long-term	N/A	N/A	0.0364

8.2. CS10: Consumer Contributing Scenario: Consumer (PC18)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	86 mg/m³	N/A	0.754
inhalative, local, short-term	86 mg/m³	N/A	0.754
dermal, systemic, long-term	4.69 mg/kg bw/day	N/A	0.0227
combined routes, systemic, long-term	N/A	N/A	0.777

8.2. CS11: Consumer Contributing Scenario: Consumer (PC23)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	3.62 mg/m³	N/A	0.0317
inhalative, local, short-term	45.3 mg/m³	N/A	0.397
dermal, systemic, long-term	28.2 mg/kg bw/day	N/A	0.0109
combined routes, systemic, long-term	N/A	N/A	0.408

8.2. CS12: Consumer Contributing Scenario: Consumer (PC23)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.136 mg/m³	N/A	0.00119
inhalative, local, short-term	6.24 mg/m³	N/A	0.0547
dermal, systemic, long-term	1.23 mg/kg bw/day	N/A	6.5E-05
combined routes, systemic, long-term	N/A	N/A	0.0295

8.2. CS13: Consumer Contributing Scenario: Consumer (PC24)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0368 mg/m³	N/A	0.000322
inhalative, local, short-term	3.36 mg/m³	N/A	0.0294
dermal, systemic, long-term	1.23 mg/kg bw/day	N/A	6.5E-05
combined routes, systemic, long-term	N/A	N/A	0.0295

8.2. CS14: Consumer Contributing Scenario: Consumer (PC27)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	15.7 mg/m³	N/A	0.137
inhalative, local, short-term	15.7 mg/m³	N/A	0.137
dermal, systemic, long-term	11.2 mg/kg bw/day	N/A	0.0543
combined routes, systemic, long-term	N/A	N/A	0.226
oral, systemic, long-term	131.2 mg/kg bw/day	N/A	0.0344

8.2. CS15: Consumer Contributing Scenario: Consumer (PC31)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	3.62 mg/m³	N/A	0.0317
inhalative, local, short-term	45.3 mg/m³	N/A	0.397
dermal, systemic, long-term	28.2 mg/kg bw/day	N/A	0.0109
combined routes, systemic, long-term	N/A	N/A	0.408

8.2. CS16: Consumer Contributing Scenario: Consumer (PC31)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0684 mg/m³	N/A	0.0006
inhalative, local, short-term	3.12 mg/m³	N/A	0.0273
dermal, systemic, long-term	5.65 mg/kg bw/day	N/A	0.000597
combined routes, systemic, long-term	N/A	N/A	0.0279

8.4 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.