

Sicherheitsdatenblatt vom 14/11/2022, Version 9

ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des
Unternehmens
1.1. Produktidentifikator
Kennzeichnung der Mischung:
Handelsname: DP1
Handelscode: 31032
1.2. Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen
abgeraten wird
Empfohlene Verwendung:
Reinigungsmittel für Windschutzscheiben
1.3. Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt
Lieferant:
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
Sachkundigen Person verantwortlich vom Sicherheitsdatenblatt:
arexons@arexons.it
1.4. Notrufnummer
Arexons S.p.A.
Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306
Austrian emergency telephone number : Vergiftungsinformationszentrale (+43 1 406 43 43)
Giftnotruf Berlin: +49 30 30686790
Antigifcentrum Brussel: 80025500 (7 jours sur 7, 24 heures sur 24).

ABSCHNITT 2: Mögliche Gefahren

2.1. Einstufung des Stoffs oder Gemischs
Kriterien der EG Verordnung 1272/2008 (CLP):

Gefahr, Flam. Liq. 2, Flüssigkeit und Dampf leicht entzündbar.
Achtung, Eye Irrit. 2, Verursacht schwere Augenreizung.

Für die menschlichen Gesundheit und die Umwelt gefährliche physisch-chemische Auswirkungen: Keine weiteren Risiken
2.2. Kennzeichnungselemente
Gefahrenpiktogramme:
Gefahr

Gefahrenhinweise:

H225 Flüssigkeit und Dampf leicht entzündbar.

H319 Verursacht schwere Augenreizung.

Sicherheitshinweise:

P101 Ist ärztlicher Rat erforderlich, Verpackung oder Kennzeichnungsetikett bereithalten. P102 Darf nicht in die Hände von Kindern gelangen.

P103 Lesen Sie sämtliche Anweisungen aufmerksam und befolgen Sie diese.

P210 Von Hitze, heißen Oberflächen, Funken, offenen Flammen sowie anderen

Zünd-quellenarten fernhalten. Nicht rauchen.

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P370+P378 Bei Brand: Schaum für Alkohole zum Löschen verwenden. P403+P235 An einem gut belüfteten Ort aufbewahren. Kühl halten P501 Inhalt/Behälter laut Verordnung der Entsorgung zuführen.

P501 Innait/Benaiter laut verordnung der Entsorgung zufuhren.

Spezielle Vorschriften:

PACK2 Die Verpackung muss eine Gefahranzeige in Blindenschrift aufweisen.

Besondere Regelungen gemäß Anhang XVII der REACH-Verordnung nachfolgenden Änderungen: Keine

Verordnung (EG) Nr. 648/2004 (Detergenzien).

2.3. Sonstige Gefahren

Keine PBT-, vPvB-Stoffe oder endokrine Disruptoren in Konzentrationen >= 0.1 %: Weitere Risiken: Keine weiteren Risiken

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

3.1. Stoffe

N.A.

3.2. Gemische

Gefährliche Bestandteile gemäß der CLP-Verordnung und dazugehörige Einstufung: >= 50% - < 60% Ethanol

Spezifische Konzentrationsgrenzwerte: C >= 50%: Eye Irrit. 2 H319

 >= 5% - < 7% Ethandiol; 1,2-Ethandiol; Ethylenglycol REACH No.: 01-2119456816-28, Index-Nummer: 603-027-00-1, CAS: 107-21-1, EC: 203-473-3

 3.1/4/Oral Acute Tox. 4 H302
 3.9/2 STOT RE 2 H373 (Nieren) (oral)

 >= 0.001% - < 0.005% Natriumhydroxid; Ätznatron; Natronlauge REACH No.: 02-2119457892-27, Index-Nummer: 011-002-00-6, CAS: 1310-73-2, EC: 215-185-5
 ♦ 2.16/1 Met. Corr. 1 H290
 ♦ 3.2/1A Skin Corr. 1A H314

Spezifische Konzentrationsgrenzwerte: 0,5% <= C < 2%: Skin Irrit. 2 H315 0,5% <= C < 2%: Eye Irrit. 2 H319

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2% <= C < 5%: Skin Corr. 1B H314 C >= 5%: Skin Corr. 1A H314

>= 0.001% - < 0.005% 1-Methoxy-2-propanol; Monopropylenglycolmethylether REACH No.: 01-2119457435-35, Index-Nummer: 603-064-00-3, CAS: 107-98-2, EC: 203-539-1 2.6/3 Flam. Lig. 3 H226 3.8/3 STOT SE 3 H336

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

4.1. Beschreibung der Erste-Hilfe-Maßnahmen

Nach Hautkontakt:

Verunreinigte Kleidung sofort ausziehen.

Körperbereiche, die mit dem Produkt in Kontakt getreten sind, bzw. bei denen dieser Verdacht besteht, müssen sofort mit viel fließendem Wasser und möglichst mit Seife gewaschen werden. Den Körper vollständig waschen (Dusche oder Bad).

Die kontaminierten Kleidungsstücke sofort ablegen und sie auf sichere Weise entsorgen.

Im Falle von Hautkontakt sofort mit reichlich Wasser und Seife waschen.

Nach Augenkontakt:

Im Falle von Augenkontakt die Augen über einen ausreichenden Zeitraum mit Wasser spülen und die Augenlider offen halten; sofort einen Augenarzt konsultieren. Das unverletzte Auge schützen.

Nach Verschlucken:

Auf keinen Fall Erbrechen herbeiführen. SOFORT ARZT ZUZIEHEN.

Nach Einatmen:

Den Verletzten ins Freie bringen, ihn ausruhen lassen und warm halten.

4.2. Wichtigste akute und verzögert auftretende Symptome und Wirkungen

- Keine
- 4.3. Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung

Im Falle eines Unfalls bzw. bei Unwohlsein sofort einen Arzt konsultieren (wenn möglich, die Bedienungsanleitung bzw. das Sicherheitsdatenblatt vorzeigen). Behandlung: Keine

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- 5.1. Löschmittel
 - Geeignete Löschmittel: Mit Kohlendioxid. Mit Pulver. Schaum für Alkohole Wassernebel. Löschmittel nicht empfohlen: Keine direkten Wasserstrahlen benutzen
- 5.2. Besondere vom Stoff oder Gemisch ausgehende Gefahren Die Explosions- bzw. Verbrennungsgase nicht einatmen. Durch die Verbrennung entsteht ein dichter Rauch.
- 5.3. Hinweise für die Brandbekämpfung Geeignete Atemgeräte verwenden. Das kontaminierte Löschwasser getrennt auffangen. Nicht in der Abwasserleitung entsorgen. Wenn im Rahmen der Sicherheit möglich, die unbeschädigten Behälter aus der unmittelbaren Gefahrenzone entfernen.

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ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

6.1. Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren

Die persönliche Schutzausrüstung tragen.

Alle Entzündungsquellen entfernen.

Die Personen an einen sicheren Ort bringen.

Die in Punkt 7 und 8 aufgeführten Schutzmaßnahmen beachten.

6.2. Umweltschutzmaßnahmen

Das Eindringen in den Boden/Unterboden verhindern. Das Abfließen in das Grundwasser oder in die Kanalisation verhindern.

Das kontaminierte Waschwasser auffangen und entsorgen.

Bei Austritt von Gas oder bei Eintritt in Wasserläufe, den Boden oder die Kanalisation die zuständigen Behörden informieren.

Geeignetes material zum Auffangen: absorbierende oder organische Materialien, Sand 6.3. Methoden und Material für Rückhaltung und Reinigung

- Mit reichlich Wasser waschen.
- 6.4. Verweis auf andere Abschnitte Siehe auch die Abschnitte 8 und 13

ABSCHNITT 7: Handhabung und Lagerung

7.1. Schutzmaßnahmen zur sicheren Handhabung

Haut- und Augenkontakt sowie das Einatmen von Dämpfen vermeiden.

Keine leeren Behälter verwenden, bevor diese nicht gereinigt wurden.

Vor dem Umfüllen sicherstellen, dass sich in den Behältern keine Reste inkompatibler Stoffe befinden.

Für die empfohlenen Schutzausrüstungen wird auf Abschnitt 8 verwiesen.

Kontaminierte Kleidungsstücke müssen vor dem Eintritt in Speiseräume gewechselt werden. Während der Arbeit nicht essen oder trinken.

7.2. Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten LGK class = 3

Immer in gut gelüfteten Räumen lagern. Unter 50 °C lagern. Vor offenen Flammen und Wärmeguellen fern halten. Keiner direkten Sonneneinstrahlung aussetzen. Vor offenen Flammen, Zündfunken und Wärmeguellen fern halten. Keiner direkten Sonneneinstrahlung aussetzen. Lebensmittel, Getränke und Tiernahrung fern halten. Kein spezifischer. Angaben zu den Lagerräumen: Kühl und ausreichend belüftet. 7.3. Spezifische Endanwendungen

Kein besonderer Verwendungszweck

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

8.1. Zu überwachende Parameter Ethanol - CAS: 64-17-5

ACGIH - STEL: 1000 ppm - Anmerkungen: A3 - URT irr

Ethandiol; 1,2-Ethandiol; Ethylenglycol - CAS: 107-21-1

EU - TWA(8h): 52 mg/m3, 20 ppm - STEL: 104 mg/m3, 40 ppm - Anmerkungen: Skin ACGIH - TWA(8h): 25 ppm - STEL: 50 ppm - Anmerkungen: (V), A4 - URT irr

- ACGIH STEL: 10 mg/m3 Anmerkungen: (I, H), A4 URT irr
- 2-Propanol; Isopropylalkohol; Isopropanol CAS: 67-63-0

ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Anmerkungen: A4, BEI - Eye and URT irr,

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DP1



CNS impair 2-Methylpropan-2-ol; tert-Butylalkohol; tert-Butanol - CAS: 75-65-0 ACGIH - TWA(8h): 100 ppm - Anmerkungen: A4 - CNS impair Natriumhydroxid; Ätznatron; Natronlauge - CAS: 1310-73-2 20101.10 - TWA: 2 mg/m3 ACGIH - STEL: Decke 2 mg/m3 - Anmerkungen: URT, eye, and skin irr 1-Methoxy-2-propanol; Monopropylenglycolmethylether - CAS: 107-98-2 EU - TWA(8h): 375 mg/m3, 100 ppm - STEL: 563 mg/m3, 150 ppm - Anmerkungen: Skin ACGIH - TWA(8h): 184 mg/m3, 50 ppm - STEL: 368 mg/m3, 100 ppm - Anmerkungen: A4 - Eve and URT irr DNEL-Expositionsgrenzwerte Ethanol - CAS: 64-17-5 Arbeitnehmer Gewerbe: 1900 mg/m3 - Exposition: Mensch - Inhalation - Häufigkeit: Kurzfristig (akut) Arbeitnehmer Gewerbe: 950 mg/m3 - Exposition: Mensch - Inhalation - Häufigkeit: Langfristig, systemische Auswirkungen Arbeitnehmer Gewerbe: 343 mg/kg - Exposition: Mensch - dermal - Häufigkeit: Langfristig, systemische Auswirkungen 2-Propanol; Isopropylalkohol; Isopropanol - CAS: 67-63-0 Verbraucher: 26 mg/kg - Exposition: Mensch - oral - Häufigkeit: Langfristig, systemische Auswirkungen Arbeitnehmer Gewerbe: 500 mg/m3 - Verbraucher: 89 mg/m3 - Exposition: Mensch -Inhalation - Häufigkeit: Langfristig, systemische Auswirkungen Arbeitnehmer Gewerbe: 880 mg/kg - Verbraucher: 319 mg/kg - Exposition: Mensch dermal - Häufigkeit: Langfristig, systemische Auswirkungen Natriumhydroxid; Ätznatron; Natronlauge - CAS: 1310-73-2 Arbeitnehmer Gewerbe: 1 mg/m3 - Verbraucher: 1 mg/l - Exposition: Mensch - Inhalation -Häufigkeit: Langfristig, lokale Auswirkungen 1-Methoxy-2-propanol; Monopropylenglycolmethylether - CAS: 107-98-2 Verbraucher: 3.3 mg/kg - Exposition: Mensch - oral - Häufigkeit: Langfristig, systemische Auswirkungen Arbeitnehmer Gewerbe: 369 mg/m3 - Verbraucher: 43.9 mg/m3 - Exposition: Mensch -Inhalation - Häufigkeit: Langfristig, systemische Auswirkungen Arbeitnehmer Gewerbe: 50.6 mg/kg - Verbraucher: 18.1 mg/kg - Exposition: Mensch dermal - Häufigkeit: Langfristig, systemische Auswirkungen Arbeitnehmer Gewerbe: 553.5 mg/m3 - Exposition: Mensch - Inhalation - Häufigkeit: Kurzfristig, lokale Auswirkungen PNEC-Expositionsgrenzwerte Ethanol - CAS: 64-17-5 Ziel: Süßwasser - Wert: 0.96 mg/l Ziel: Meerwasser - Wert: 0.79 mg/l Ziel: Flußsediment - Wert: 3.6 mg/kg Ziel: Meerwasser-Sedimente - Wert: 2.9 mg/kg Ziel: 09 - Wert: 580 mg/l 2-Propanol; Isopropylalkohol; Isopropanol - CAS: 67-63-0 Ziel: Süßwasser - Wert: 140.9 mg/l Ziel: Meerwasser - Wert: 140.9 mg/l Ziel: Flußsediment - Wert: 552 mg/kg Ziel: Meerwasser-Sedimente - Wert: 552 mg/kg Ziel: Boden (Landwirtschaft) - Wert: 28 mg/kg 1-Methoxy-2-propanol; Monopropylenglycolmethylether - CAS: 107-98-2 Ziel: Süßwasser - Wert: 10 mg/l Ziel: Flußsediment - Wert: 52.3 mg/kg Ziel: Meerwasser - Wert: 1 mg/l Ziel: Meerwasser-Sedimente - Wert: 5.2 mg/kg Ziel: Boden (Landwirtschaft) - Wert: 4.59 mg/l 31032/9

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Augenschutz: Die Sicherheitsvisiere schließen, keine Kontaktlinsen verwenden. Hautschutz: Bei normaler Verwendung sind besondere Vorsichtsmaßnahmen nicht notwendig. Handschutz: Schutzhandschuhe tragen, die einen vollständigen Schutz garantieren, z.B. aus PVC, Neopren oder Gummi. Atemschutz: Bei normaler Verwendung nicht erforderlich. Wärmerisiken: Keine Kontrollen der Umweltexposition:

Keine

Geeignete technische Massnahmen:

Keine

ABSCHNITT 9: Physikalische und chemische Eigenschaften

8.2. Begrenzung und Überwachung der Exposition

9.1. Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

Eigenschaft	Wert	Methode:	Anmerkungen
Aggregatzustand:	flüssig		
Farbe:	hellblau		
Geruch:	charakteristisc h		
Schmelzpunkt/ Gefrierpunkt:	N.A.		
Siedepunkt oder Siedebeginn und Siedebereich:	82°C		
Entzündbarkeit:	Flam. Liq. 2, H225		
Untere und obere Explosionsgrenze:	N.A.		
Flammpunkt:	22,5 °C		
Selbstentzündungstempera tur:	N.A.		
Zerfalltemperatur:	N.A.		
pH:	10.5		
Kinematische Viskosität:	N.A.		
Wasserlöslichkeit:	N.A.		
Löslichkeit in Öl:	N.A.		
Verteilungskoeffizient n-	N.A.		



Oktanol/Wasser (log- Wert):			
Dampfdruck:	N.A.		
Dichte und/oder relative Dichte:	0.904 g/cm3		
Relative Dampfdichte:	N.A.		
	Partikeleiger	nschaften:	
Teilchengröße:	N.A.		

9.2. Sonstige Angaben

Keine weiteren relevanten Informationen

ABSCHNITT 10: Stabilität und Reaktivität

- 10.1. Reaktivität
 - Stabil unter Normalbedingungen
- 10.2. Chemische Stabilität
 - Stabil unter Normalbedingungen
- 10.3. Möglichkeit gefährlicher Reaktionen

Kann unter Einwirkung von Dithiokarbamaten, Mercaptanen und weiteren organischen Sulfiden, elementaren Metallen (Alkali- und Erdalkalimetallen), Pulverlegierungen, Dämpfen, starken Reduktionsmitteln entflammbare Gase bilden.

Kann unter Einwirkung von anorganischen Fluoriden, halogenierten organischen Stoffen, Sulfiden, Nitriden, Nitrilen, organischen Phosphaten, Phosphothioaten, Phosphodithioaten, starken Oxydationsmitteln giftige Gase bilden.

Kann sich unter Einwirkung von Dithiokarbamaten, elementaren Metallen (Alkali- und Erdalkalimetallen, Pulverlegierungen, Dämpfen, Platten oder Stangen), Nitriden entzünden.

- 10.4. Zu vermeidende Bedingungen
- Unter normalen Umständen stabil.
- 10.5. Unverträgliche Materialien
- Kontakt mit brandfördernden Materialien vermeiden. Das Produkt könnte in Brand geraten. 10.6. Gefährliche Zersetzungsprodukte

Keine.

ABSCHNITT 11: Toxikologische Angaben

11.1. Angaben zu den Gefahrenklassen im Sinne der Verordnung (EG) Nr. 1272/2008 Toxikologische Informationen zum Produkt:

- DP1 ML 500
- a) akute Toxizität
 - Nicht klassifiziert
 - Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- b) Ätz-/Reizwirkung auf die Haut
 - Nicht klassifiziert
 - Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- c) schwere Augenschädigung/-reizung
- Das Produkt ist eingestuft: Eye Irrit. 2 H319
- d) Sensibilisierung der Atemwege/Haut Nicht klassifiziert

Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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e) Keimzell-Mutagenität Nicht klassifiziert Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt. f) Karzinogenität Nicht klassifiziert Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt. q) Reproduktionstoxizität Nicht klassifiziert Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt. h) spezifische Zielorgan-Toxizität bei einmaliger Exposition Nicht klassifiziert Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt. i) spezifische Zielorgan-Toxizität bei wiederholter Exposition Nicht klassifiziert Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt. i) Aspirationsgefahr Nicht klassifiziert Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt. Toxikologische Informationen zu den Hauptbestandteilen des Produkts: Ethanol - CAS: 64-17-5 d) Sensibilisierung der Atemwege/Haut: Test: Sensibilisierung der Haut - Weg: Haut Negativ e) Keimzell-Mutagenität: Test: Genotoxizität - Spezies: vitro Negativ f) Karzinogenität: Test: Karzinogenität - Spezies: mam Positiv g) Reproduktionstoxizität: Test: NOAEL - Weg: Einatmen - Spezies: Ratte = 1600 ppm 2-Propanol; Isopropylalkohol; Isopropanol - CAS: 67-63-0 a) akute Toxizität: Test: LD50 - Weg: Oral - Spezies: Ratte 4396-5500 mg/kg Test: LD50 - Weg: Haut - Spezies: Kaninchen 12870 mg/kg Test: LC50 - Weg: Einatmen - Spezies: Ratte 72.6 mg/l - Laufzeit: 4h 1-Methoxy-2-propanol; Monopropylenglycolmethylether - CAS: 107-98-2 a) akute Toxizität: Test: LD50 - Weg: Oral 5300 mg/kg Test: LD50 - Weg: Haut 13000 mg/kg Test: LD50 - Weg: Einatmen 54.6 mg/l - Laufzeit: 4h 11.2. Angaben über sonstige Gefahren Endokrinschädliche Eigenschaften: Keine endokrinen Disruptoren in Konzentrationen >= 0.1 %. **ABSCHNITT 12: Umweltbezogene Angaben** 12.1. Toxizität Im Einklang mit der GLP verwenden, nicht herumliegen lassen. Ethanol - CAS: 64-17-5 a) Akute aquatische Toxizität: Endpunkt: LC50 - Spezies: Fische 14.2 GL - Dauer / h: 96 Endpunkt: LC50 - Spezies: Daphnia 29.6 GL - Dauer / h: 24

> Endpunkt: EC50 - Spezies: Algen 19000 mg/l - Dauer / h: 96 Endpunkt: EC50 - Spezies: batteri 39.5 GL - Dauer / h: 4 b) Chronische aquatische Toxizität: Endpunkt: EC50 - Spezies: Fische 14536 mg/l - Dauer / h: 200 Endpunkt: LC50 - Spezies: Daphnia 9248 mg/l - Dauer / h: 48 Natriumhydroxid; Ätznatron; Natronlauge - CAS: 1310-73-2

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arexons

a) Akute aquatische Toxizität:	
Endpunkt: EC50 - Spezies: Daphnia 40.4 mg/l - Dauer / h	: 48
12.2. Persistenz und Abbaubarkeit	
Keine	
1-Methoxy-2-propanol; Monopropylenglycolmethylether - CAS: 1	07-98-2
Biologische Abbaubarkeit: Schnell abbaubar	
12.3. Bioakkumulationspotenzial	
2-Propanol; Isopropylalkohol; Isopropanol - CAS: 67-63-0	
Test: Kow - Verteilungskoeffizient 0.05	
Natriumhydroxid; Ätznatron; Natronlauge - CAS: 1310-73-2	
Bioakkumulation: Nicht bioakkumulierbar	
12.4. Mobilität im Boden	
Natriumhydroxid; Ätznatron; Natronlauge - CAS: 1310-73-2	
Mobilität im Boden: Nicht mobil	
12.5. Ergebnisse der PBT- und vPvB-Beurteilung	
vPvB-Stoffe: Keine - PBT-Stoffe: Keine	
12.6. Endokrinschädliche Eigenschaften	
Keine endokrinen Disruptoren in Konzentrationen >= 0.1 %.	
12.7. Andere schädliche Wirkungen	
Keine	

ABSCHNITT 13: Hinweise zur Entsorgung

13.1. Verfahren der Abfallbehandlung

Nach Möglichkeit wiederverwerten. Behördlich zugelassenen Deponien oder Verbrennungsanlagen zuführen. Entsprechend den geltenden örtlichen und nationalen Bestimmungen vorgehen.

ABSCHNITT 14: Angaben zum Transport



14.1. UN-Nummer oder ID-Nummer	
ADR-UN Number:	1987
IATA-UN Number:	1987
IMDG-UN Number:	1987
14.2. Ordnungsgemäße UN-Versandt	pezeichnung
ADR-Shipping Name:	ALKOHOLE, N.A.G. (ethanol, 2-propanol; isopropylalkohol; isopropanol)
IATA-Shipping Name:	ALKOHOLE, N.A.G. (ethanol, 2-propanol; isopropylalkohol; isopropanol)
IMDG-Shipping Name:	ALKOHOLE, N.A.G. (ethanol, 2-propanol; isopropylalkohol; isopropanol)
14.3. Transportgefahrenklassen	
ADR-Class:	3
ADR - Gefahrnummer:	33
IATA-Class:	3
IATA-Label:	3
IMDG-Class:	3
IMDG-Klasse:	3. PG II
14.4. Verpackungsgruppe	
ADR-Packing Group:	II
IATA-Packing group:	
3 3 4 4	



IMDG-Packing group: 14.5. Umweltgefahren	II		
ADR-Umweltbelastung:	Nein		
IMDG-Marine pollutant:	Nein		
IMDG-EmS:	F-E,		
	S-D		
14.6. Besondere Vorsichtsmaßnahme	en für den Verwender		
ADR-Subsidiary hazards:	-		
ADR-S.P.:	274 601 640D		
ADR-Beförderungskategorie (T			2
	annenseeen annangeeede).		_ (D/E)
IATA-Passenger Aircraft:	353		(2,2)
IATA-Subsidiary hazards:	-		
IATA-Cargo Aircraft:	364		
IATA-S.P.:	A3 A180		
IATA-ERG:	3L		
IMDG-Subsidiary hazards:	5L		
IMDG-Stowage and handling:	- Category A		
IMDG-Segregation:	Calegory A		
	- Soowog gomöß IMO Instrumont	on	
14.7. Massengutbeförderung auf dem N.A.	i Seewey gemais into-instrument	.en	
Limited Quantity: 1 L			
Exempted Quantity: E2			

ABSCHNITT 15: Rechtsvorschriften

15.1. Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder

RL 98/24/EG (Schutz von Gesundheit und Sicherheit der Arbeitnehmer vor der Gefährdung durch chemische Arbeitsstoffe bei der Arbeit)

RL 2000/39/EG (Arbeitsplatz-Richtgrenzwerte) Verordnung (EG) Nr. 1907/2006 (REACH) Verordnung (EG) Nr. 1272/2008 (CLP) Verordnung (EG) Nr. 790/2009 (1. ATP CLP) und (EU) Nr. 758/2013 Verordnung (EU) Nr. 2020/878 Verordnung (EU) Nr. 286/2011 (2. ATP CLP) Verordnung (EU) Nr. 618/2012 (3. ATP CLP) Verordnung (EU) Nr. 487/2013 (4. ATP CLP) Verordnung (EU) Nr. 944/2013 (5. ATP CLP) Verordnung (EU) Nr. 605/2014 (6. ATP CLP) Verordnung (EU) Nr. 2015/1221 (7. ATP CLP) Verordnung (EU) Nr. 2016/918 (8. ATP CLP) Verordnung (EU) Nr. 2016/1179 (9. ATP CLP) Verordnung (EU) Nr. 2017/776 (10. ATP CLP) Verordnung (EU) Nr. 2018/669 (11. ATP CLP) Verordnung (EU) Nr. 2018/1480 (13. ATP CLP) Verordnung (EU) Nr. 2019/521 (12. ATP CLP) Verordnung (EU) Nr. 2020/217 (14. ATP CLP) Verordnung (EU) Nr. 2020/1182 (15. ATP CLP) Verordnung (EU) Nr. 2021/643 (16. ATP CLP) Beschränkungen zum Produkt oder zu den Inhaltsstoffen gemäß Anhang XVII der Verordnung (EG) 1907/2006 (REACH) und nachfolgenden Änderungen: Beschränkungen zum Produkt: Beschränkung 3 Beschränkung 40 Beschränkungen zu den Inhaltsstoffen gemäß: Beschränkung 75

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31032/9



Flüchtige Organische Verbindung - FOV = 63.06 % Flüchtige Organische Verbindung - FOV = 630.62 g/Kg Flüchtige Organische Verbindung - FOV = 570.08 g/l Wo möglich auf die folgenden Normen Bezug nehmen: Richtlinie EU 2012/18 (Seveso III) Verordnung (EG) Nr. 648/2004 (Detergenzien). RL 2004/42/EG (FOV Richtlinie)

Anordnungen zu der Richtlinie EU 2012/18 (Seveso III): Seveso III Kategorie gemäß dem Anhang 1, Teil 1 Das Produkt gehört zur Kategorie: P5c

15.2. Stoffsicherheitsbeurteilung

Keine Stoffsicherheitsbeurteilung wurde durchgeführt für das Gemisch Stoffe, für die eine Stoffsicherheitsbeurteilung durchgeführt worden ist: Ethanol 2-Propanol; Isopropylalkohol; Isopropanol

ABSCHNITT 16: Sonstige Angaben

Text der verwendeten Sätze im Absatz 3:

H225 Flüssigkeit und Dampf leicht entzündbar.

H319 Verursacht schwere Augenreizung.

H302 Gesundheitsschädlich bei Verschlucken.

H373 (Nieren) (oral) Kann bei Verschlucken die Organe (Nieren) schädigen bei längerer oder wiederholter Exposition.

H336 Kann Schläfrigkeit und Benommenheit verursachen.

H332 Gesundheitsschädlich bei Einatmen.

H335 Kann die Atemwege reizen.

H290 Kann gegenüber Metallen korrosiv sein.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H315 Verursacht Hautreizungen.

H226 Flüssigkeit und Dampf entzündbar.

Gefahrenklasse und Gefahrenkategorie	Code	Beschreibung
Met. Corr. 1	2.16/1	Auf Metalle korrosiv wirkende Stoffe oder Gemische, Kategorie 1
Flam. Liq. 2	2.6/2	Entzündbare Flüssigkeiten, Kategorie 2
Flam. Liq. 3	2.6/3	Entzündbare Flüssigkeiten, Kategorie 3
Acute Tox. 4	3.1/4/Inhal	Akute Toxizität (inhalativ), Kategorie 4
Acute Tox. 4	3.1/4/Oral	Akute Toxizität (oral), Kategorie 4
Skin Corr. 1A	3.2/1A	Verätzung der Haut, Kategorie 1A
Skin Corr. 1B	3.2/1B	Verätzung der Haut, Kategorie 1B
Skin Irrit. 2	3.2/2	Reizung der Haut, Kategorie 2
Eye Irrit. 2	3.3/2	Reizung der Augen, Kategorie 2



STOT SE 3	3.8/3	Spezifische Zielorgan-Toxizität (einmalige Exposition), Kategorie 3
STOT RE 2	3.9/2	Spezifische Zielorgan-Toxizität (wiederholte Exposition), Kategorie 2

Modifikation der Paragraphen seit der letzten Revision:

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen ABSCHNITT 7: Handhabung und Lagerung ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen ABSCHNITT 12: Umweltbezogene Angaben ABSCHNITT 14: Angaben zum Transport ABSCHNITT 16: Sonstige Angaben

Einstufung und Verfahren, das zum Ableiten der Einstufung von Gemischen gemäß Verordnung (EG) 1272/2008 [CLP] verwendet wurde:

Einstufung gemäß Verordnung (EG) Nr. 1272/2008	Einstufungsverfahren
Flam. Liq. 2, H225	auf der Basis von Prüfdaten
Eye Irrit. 2, H319	Berechnungsmethode

Diese Unterlagen wurden von einem Fachmann mit entsprechender Ausbildung abgefasst. Hauptsächliche Literatur:

ECDIN - Daten- und Informationsnetz über umweltrelevante Chemikalien - Vereinigtes Forschungszentrum, Kommission der Europäischen Gemeinschaft

SAX's GEFÄHRLICHE EIGENSCHAFTEN VON INDUSTRIELLEN SUBSTANZEN - Achte Auflage - Van Nostrand Reinold

Die vorstehenden Angaben stützen sich auf den heutigen Stand unserer Kenntnisse. Sie gelten nur für das angegebene Produkt und stellen keine Zusicherung von Eigenschaften dar.

Es obliegt dem Anwender die Zuständigkeit und die Vollständigkeit dieser Angaben für seine spezifische Anwendung zu kontrollieren.

Dieses Datenblatt ersetzt alle früheren Ausgaben.

ADR:	Europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter auf der Straße
ATE:	Schätzung Akuter Toxizität
ATEGemisch:	Schätzwert der akuten Toxizität (Gemische)
CAS:	Chemical Abstracts Service (Abteilung der American Chemical Society)
CLP:	Einstufung, Verpackung und Kennzeichnung
DNEL:	Abgeleitetes Null-Effekt-Niveau (DNEL)
EINECS:	Europäisches Verzeichnis der auf dem Markt vorhandenen chemischen
	Stoffe
GefStoffVO:	Gefahrstoffverordnung
GHS:	Global harmonisiertes System zur Einstufung und Kennzeichnung von Chemikalien
IATA:	Internationale Flug-Transport-Vereinigung (IATA)
IATA-DGR:	Vorschriften über die Beförderung gefährlicher Güter der Internationalen Flug-Transport-Vereinigung (IATA)
ICAO:	Internationale Zivilluftfahrtorganisation (ICAO)
ICAO-TI:	Technische Anleitungen der Internationalen Zivilluftfahrtorganisation
	(ICAO)



IMDG:	Gefahrgutkennzeichnung für gefährliche Güter im Seeschiffsverkehr (IMDG-Code)
INCI:	Internationale Nomenklatur für kosmetische Inhaltsstoffe (INCI)
KSt:	Explosions-Koeffizient
LC50:	Letale Konzentration für 50 Prozent der Testpopulation
LD50:	Letale Dosis für 50 Prozent der Testpopulation
NA:	Nicht anwendbar
PNEC:	Abgeschätzte Nicht-Effekt-Konzentration (PNEC-Wert)
RID:	Regelung zur internationalen Beförderung gefährlicher Güter im
	Schienenverkehr
STEL:	Grenzwert für Kurzzeitexposition
STOT:	Zielorgan-Toxizität
TLV:	Arbeitsplatzgrenzwert
TWA:	Zeit gemittelte
WGK:	Wassergefährdungsklasse

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)
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- 5. **ES 5** Widespread use by professional workers
- 6. **ES 6** Widespread use by professional workers
- 7. **ES 7** Consumer use; Fuels (PC13)
- 8. **ES 8** Consumer use; Various products (PC1, PC3, PC8, PC18, PC23)

Consumer use; Anti-freeze and de-icing products (PC4) 1. ES 1 **1.1 TITLE SECTION Exposure Scenario name** Car care and maintenance products - De-icing and anti-icing applications 22/07/2019 - 1.0 **Date - Version** 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** PC4 - PC4 1 CS2 Car Care - De-icing and anti-icing applications 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) Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) **Environmental release** categories (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:

Other conditions affecting c	onsumers exposure
Room size: Covers use in a one car g Temperature: Covers use at ambien	arage (>34 m³) under typical ventilation. t temperatures.
1.2. CS3: Consumer Contributi	ng 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) characteri	stics
Concentration of substance in 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 c	onsumers exposure
Room size: Covers use in a one car g Temperature: Covers use at ambien	arage (>34 m³) under typical ventilation. t temperatures.
Additional conditions human h Covers skin contact area up to 482	
1.2. CS4: Consumer Contributi	ng 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) characteri	stics
Concentration of substance in 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	
Covers use up to 0.25 h/event Frequency:	onsumers exposure
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co	arage (>34 m ³) under typical ventilation.
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co Room size: Covers use in a one car g	arage (>34 m³) under typical ventilation. t temperatures. nealth
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co Room size: Covers use in a one car g Temperature: Covers use at ambien Additional conditions human h Covers skin contact area up to 214	arage (>34 m³) under typical ventilation. t temperatures. nealth
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co Room size: Covers use in a one car g Temperature: Covers use at ambien Additional conditions human H Covers skin contact area up to 214 1.3 Exposure estimat	arage (>34 m³) under typical ventilation. t temperatures. nealth cm²

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)
nhalative, systemic, long-term	0.000102 mg/m ³	N/A	8.94E-07
inhalative, local, short-term	0.000102 mg/m ³	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.

Consumer use; Various products (PC39, PC28) 2. ES 2 **2.1 TITLE SECTION Exposure Scenario name** Cosumer other uses 22/07/2019 - 1.0 **Date - Version** 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** Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) categories (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	t industrial site		
3.1 TITLE SECTION			
Exposure Scenario name	Solvent		
Date - Version			
	22/07/2019 - 1.0 Use at industrial site		
Life Cycle Stage	,		
Main user group			
Sector(s) of use			
Environment Contributing Sce	nario		
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 Contrib	uting Scenario: Covered by (ERC4)		
Environmental release categories	Use of non-reactive processing aid at industrial site (n	o inclusion into or onto article) (ERC4)	
Product (article) characteri	stics		
Vapour pressure: < 10 kPa			
Amount used, frequency and	l duration of use (or from service life)		
Amounts used: Annual site tonnage 3000 t(onnes	s)/year		
Maximum allowable site tonn	age (MSafe): 124000 kg/day		
Release type: Continuous release			
Emission days: 300 days per year			
Technical and organisation	al conditions and measures		
Control measures to prevent r			

meat an emission to provide th	e required removal efficiency of (%):	ŀ	Air - minimum efficiency of: 90 %
Prevent discharge of undissolved substance to or recover from onsite wastewater.		water.	Nater - minimum efficiency of: 87 %
Conditions and measure	s related to sewage treatment pla	Int	
STP type: Municipal Sewage Treatmen STP effluent (m³/day): 2000			
Conditions and measure	s related to treatment of waste (in	ncluding article w	vaste)
Waste treatment			
Incineration, disposal or recycli Contain and dispose of waste a		Waste - minir	num efficiency of: 99.98 %
Other conditions affectir	ng environmental exposure		
Local marine water dilutio Local freshwater dilution f Receiving surface water flo	actor: 10		
Additional good practice	e advice. Obligations according to	Article 37(4) of R	EACH do not apply.
Additional Good Practice A Contain leaks or spills within	Advice: cabinets with removable trays.		
3.2. CS2: Worker Contribu	ting 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) charac	teristics		
Physical form of product: Liquid Vapour pressure:			
< 10 kPa Concentration of substanc Covers percentage substance	-		
Amount used, frequency	and duration of use/exposure		
Duration: Covers daily exposures up to	8 hours		
Technical and organisat	ional conditions and measures		
Technical and organisation Use in contained systems Store substance within a close			
	s related to personal protection, h	ygiene and healt	h evaluation
Personal protection			
Use suitable eye protection.			
	ig worker exposure		
Other conditions affectin			
Other conditions affecting Temperature: Covers use at an			

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 CategoriesManufacture 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 Covers percentage substance in t	•
Amount used, frequency and	l duration of use/exposure
Duration: Covers daily exposures up to 8 ho	purs
Technical and organisation	al conditions and measures
Technical and organisational r Use in contained systems Store substance within a closed sy	
Conditions and measures re	lated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
Other conditions affecting w	vorker exposure
Temperature: Covers use at ambier	it temperatures.
3.2. CS6: Worker Contributing	Scenario: Industrial (PROC5)
Process Categories	Mixing or blending in batch processes (PROC5)
Product (article) characteri	stics
Physical form of product: Liquid	
Vapour pressure: < 10 kPa	
Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	d duration of use/exposure
Duration: Covers daily exposures up to 8 ho	burs
Technical and organisation	al conditions and measures
Technical and organisational r Use in contained systems Store substance within a closed sy	
Conditions and measures re	lated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
Other conditions affecting w	vorker exposure
Temperature: Covers use at ambier	it temperatures.
3.2. CS7: Worker Contributing	Scenario: Industrial (PROC7)
Process Categories	Industrial spraying (PROC7)
Product (article) characteri	stics
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 Contribu	ting Scenario: Industrial (PROC8a)			
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)			
Product (article) charad	teristics			
Physical form of product: Liquid				
Vapour pressure: < 10 kPa				
Concentration of substant Covers percentage substant	c e in product: e in the product up to 100 %.			
Amount used, frequency	and duration of use/exposure			
Duration: Covers daily exposures up to	o 8 hours			
Technical and organisa	tional conditions and measures			
Technical and organisatio Use in contained systems Store substance within a clos				
Conditions and measure	es related to personal protection, hygiene and health evaluation			
Personal protection Use suitable eye protection.				
Other conditions affecti	ng worker exposure			
Temperature: Covers use at an	nbient temperatures.			
3.2. CS9: Worker Contribu	ting Scenario: Industrial (PROC8b)			
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)			
Product (article) charge	taristics			

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 Covers percentage substance	-	
Amount used, frequency a	and duration of use/exposur	е
Duration: Covers daily exposures up to 8	8 hours	
Technical and organisation	onal conditions and measur	es
Technical and organisationa Use in contained systems Store substance within a closed		
Conditions and measures	related to personal protect	on, hygiene and health evaluation
Personal protection Use suitable eye protection.		
Other conditions affecting	y worker exposure	
Temperature: Covers use at amb	vient temperatures.	
3.2. CS12: Worker Contribut	ting Scenario: Industrial (PRO	(15)
Process Categories	Use as laboratory reagent (PF	
Product (article) characte		
Duration: Covers daily exposures up to 8	in the product up to 100 %. and duration of use/exposur B hours bonal conditions and measur al measures	
Conditions and measures	related to personal protect	on, hygiene and health evaluation
Personal protection Use suitable eye protection.		
Other conditions affecting	y worker exposure	
Temperature: Covers use at amb	ient temperatures.	
3.3 Exposure estimation	ation and reference t	o its source
	ributing Scenario: Covered by	
Polooso revito	Pologo rete	Polocco estimation method
Release route	Release rate	Release estimation method
Air		
7.01	0.98 %	N/A

N/A

0%

soil

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

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)	
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 a	t industrial site		
4.1 TITLE SECTION			
Exposure Scenario name			
Date - Version	22/07/2019 - 1.0		
Life Cycle Stage	le Stage Use at industrial site		
Main user group	Industrial uses		
Sector(s) of use	Industrial uses (SU3)		
Environment Contributing Sce	nario		
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		
	outing Scenario: Covered by (ERC7)		
Environmental release categories	Use of functional fluid at industrial site (E	ERC7)	
Product (article) characteri	istics		
Physical form of product: Liquid			
<pre>Vapour pressure: < 10 kPa</pre>			
Amount used, frequency and	d duration of use (or from service li	fe)	
Amounts used: Annual site tonnage 20000 t(onn	es)/year		
Maximum allowable site tonn	age (MSafe): 14500000 kg/day		
Release type: Continuous release			
Emission days: 300 days per year			
Technical and organisation	al conditions and measures		
Control measures to prevent	releases		
Provide onsite wastewater removal	efficiency of ³ (%):	Water - minimum efficiency of: 87 %	
		1	

	es related to sewage treatment plant
STP type: Municipal Sewage Treatme Water - minimum efficienc STP effluent (m ³ /day): 20	y of: = 87 %
Conditions and measur	es related to treatment of waste (including article waste)
Waste treatment Product residual disposal co	mplies with applicable regulations.
Other conditions affect	ing environmental exposure
Local marine water diluti Local freshwater dilution Receiving surface water f	factor: 10
Additional good praction	ce advice. Obligations according to Article 37(4) of REACH do not apply.
Additional Good Practice Adequate closed storage fa	Advice: cilities (e.g., bulk storage tanks, intermediate bulk containers, drums) are required.
4.2. CS2: Worker Contrib	uting 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) chara	cteristics
	i ce in product: ce in the product up to 100 %.
Covers percentage substan	•
Covers percentage substan	ce in the product up to 100 %. <i>y and duration of use/exposure</i>
Covers percentage substan Amount used, frequenc Duration: Covers daily exposures up t	ce in the product up to 100 %. <i>y and duration of use/exposure</i>
Covers percentage substan Amount used, frequence Duration: Covers daily exposures up to Technical and organise	ce in the product up to 100 %. y and duration of use/exposure to 8 hours tional conditions and measures losed system.
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a co Store substance within a clo	ce in the product up to 100 %. y and duration of use/exposure to 8 hours tional conditions and measures losed system.
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a clo Store substance within a clo Conditions and measure	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ational conditions and measures onal measures losed system. sed system. sees related to personal protection, hygiene and health evaluation
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a clo Store substance within a clo Conditions and measure Personal protection Use suitable eye protection	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ational conditions and measures onal measures losed system. sed system. sees related to personal protection, hygiene and health evaluation
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a close Store substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribution	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ttional conditions and measures losed system. sed system. sed system.
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a close Store substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribus Process Categories	<pre>ce in the product up to 100 %. y and duration of use/exposure to 8 hours ttional conditions and measures losed system. sed system. sed system. tes related to personal protection, hygiene and health evaluation uting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)</pre>
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribo Process Categories Product (article) chara	ce in the product up to 100 %. y and duration of use/exposure to 8 hours to 8 hours to and measures losed system. sed system. sed system. ters related to personal protection, hygiene and health evaluation tuting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) cteristics
Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a clos Store substance within a clos Conditions and measur Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribu Process Categories Product (article) chara Physical form of product:	ce in the product up to 100 %. y and duration of use/exposure to 8 hours to 8 hours to and measures losed system. sed system. sed system. ters related to personal protection, hygiene and health evaluation tuting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) cteristics
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contrible Process Categories Product (article) charata Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substant	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ttional conditions and measures losed system. sed system. set related to personal protection, hygiene and health evaluation uting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) cteristics

Amount used, frequency and duration of use/exposure

Duration:	
Covers daily exposures up	
Technical and organisat	sational conditions and measures
Handle substance within a Store substance within a cl	a closed system.
Conditions and measu	res related to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection	n.
4.2. CS4: Worker Contril	buting 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) char	acteristics
Physical form of produce	t:
Vapour pressure: < 10 kPa	
Concentration of substa Covers percentage substa	ance in product: ance in the product up to 100 %.
Amount used, frequen	ncy and duration of use/exposure
Duration: Covers daily exposures up	p to 8 hours
Technical and organis	sational conditions and measures
Technical and organisat Handle substance within a Store substance within a cl	a closed system.
Conditions and measu	res related to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection	n.
4.2. CS5: Worker Contril	buting Scenario: Industrial (PROC8a)
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Product (article) char	racteristics
Physical form of product	:t:
Vapour pressure: < 10 kPa	
Concentration of substa Covers percentage substa	ance in product: ance in the product up to 100 %.
Amount used, frequen	ncy and duration of use/exposure
Duration: Covers daily exposures up	p to 8 hours
	sational conditions and measures
Technical and organis	
Technical and organisati Handle substance within a Store substance within a cl	cional measures a closed system.

Use suitable eye protection.	
4.2. CS6: Worker Contribution	ng Scenario: Industrial (PROC8b)
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) characte	eristics
Physical form of product: Liquid	
Vapour pressure: < 10 kPa	
Concentration of substance Covers percentage substance i	•
Amount used, frequency a	and duration of use/exposure
Duration: Covers daily exposures up to 8	8 hours
Technical and organisatic	onal conditions and measures
Technical and organisationa Handle substance within a close Store substance within a closed	ed system.
Conditions and measures	related to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
4.2. CS7: Worker Contributi	ng Scenario: Industrial (PROC15)
Process Categories	Use as laboratory reagent (PROC15)
-0	
Product (article) characte	
Product (article) characte Physical form of product: Liquid	
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa	in product:
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i	in product:
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration:	in product: in the product up to 100 %. and duration of use/exposure
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration: Covers daily exposures up to 8	in product: in the product up to 100 %. and duration of use/exposure
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisatio	in product: in the product up to 100 %. and duration of use/exposure is hours is hours is hours is mail conditions and measures is measures ed system.
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a close Store substance within a close	in product: in the product up to 100 %. and duration of use/exposure is hours is hours is hours is mail conditions and measures is measures ed system.
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisationa Handle substance within a closed Store substance within a closed Conditions and measures	in product: in the product up to 100 %. and duration of use/exposure thours blows
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a closed Store substance within a closed Conditions and measures Personal protection Use suitable eye protection.	in product: in the product up to 100 %. and duration of use/exposure thours blows
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisationa Handle substance within a closed Store substance within a closed Conditions and measures Personal protection Use suitable eye protection. 	in product: in the product up to 100 %. and duration of use/exposure thours bonal conditions and measures al measures ed system. Hysystem. Hysystem. Hysystem.
Product (article) character Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance i Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a closed Store substance within a closed Conditions and measures Personal protection Use suitable eye protection.	in product: in the product up to 100 %. and duration of use/exposure thours bound conditions and measures al measures ed system. is system. related to personal protection, hygiene and health evaluation ng Scenario: Industrial (PROC16) Use of fuels (PROC16)

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/m ³	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/m ³	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:

5. ES 5

Widespread use by professional workers

5.1 TITLE SECTION

3.1 IIILE 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 Sce	nario		
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 professiona	PROC3		
CS5 General use from professiona	PROC4		
CS6 General use from professiona	PROC5 - PROC8a		
CS7 General use from professiona	al operators	PROC8b	
CS8 General use from professiona	al operators	PROC10	
CS9 General use from professiona	PROC11		
CS10 General use from profession	PROC11		
CS11 General use from professional operators PROC13			
CS12 General use from profession	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	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)
categories	(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

Treat air emission to provide	the required removal efficiency	r of (%):	Air - minimum efficiency of: 90 %		
Drovent discharge of undiscol	Prevent discharge of undissolved substance to or recover from onsite wastewater.				
Prevent discharge of undisso					
Conditions and measur	es related to treatment	of waste (includi	na article waste)		
Waste treatment					
Hazardous waste incineration	1	Waste - minimum effic	iency of: 99.98 %		
5.2. (S2: Worker Contrib	uting Scenario: General u	se from profession	al operators (PROC1)		
	-	-	process without likelihood of exposure or		
Process Categories	-	alent containment co	-		
Product (article) chara					
Physical form of product Liquid, vapour pressure 0,5					
Concentration of substar Covers percentage substar	nce in product: Ince in the product up to 100 %.				
Amount used, frequenc	y and duration of use/e	exposure			
Duration: Covers daily exposures up	to 8 hours				
Conditions and measur	es related to personal p	protection, hygien	e and health evaluation		
Personal protection Use suitable eye protection					
5.2. CS3: Worker Contrib	uting Scenario: General u	se from profession	al 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) chara	cteristics				
Physical form of product Liquid, vapour pressure 0,5	5 - 10 kPa at STP				
Concentration of substar Covers percentage substar	ice in the product up to 100 %.				
Amount used, frequenc	y and duration of use/e	exposure			
Duration: Covers daily exposures up	to 8 hours				
Conditions and measur	es related to personal p	protection, hygien	e and health evaluation		
Personal protection Use suitable eye protection					
5.2. CS4: Worker Contrib	uting Scenario: General u	se from profession	al operators (PROC3)		
Process Categories			al industry in closed batch processes with es with equivalent containment condition (PROC3		
Product (article) characteristics					

Concentration of substance in product:

Covers percentage substance in	the product up to 100 %.
Amount used, frequency an	d duration of use/exposure
Duration: Covers daily exposures up to 8 h	ours
Conditions and measures re	elated 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) character	istics
Physical form of product: Liquid, vapour pressure 0,5 - 10 l Concentration of substance in Covers percentage substance in	n product:
Amount used, frequency and	
Duration:	a auradon oj usoj enposure
Covers daily exposures up to 8 h	ours
	elated 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) character	istics
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP
Concentration of substance in Covers percentage substance in	•
Amount used, frequency an	d duration of use/exposure
Duration: Covers daily exposures up to 8 h	ours
Conditions and measures re	elated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
5.2. CS7: Worker Contributing	s Scenario: General use from professional operators (PROC8b)
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) character	istics
Physical form of product: Liquid, vapour pressure 0,5 - 10	
Concentration of substance in Covers percentage substance in	
Amount used, frequency an	d duration of use/exposure
Duration: Covers daily exposures up to 8 h	ours

Personal protection Use suitable eye protection.				
5.2. CS8: Worker Contributir	ng Scenario: General use from professional operators (PROC10)			
Process Categories Roller application or brushing (PROC10)				
Product (article) characte	ristics			
Physical form of product: Liquid, vapour pressure 0,5 - 10				
Concentration of substance Covers percentage substance in	•			
Amount used, frequency a	nd 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 Contributir	ng Scenario: General use from professional operators (PROC11)			
Process Categories	Non industrial spraying (PROC11)			
Product (article) characte	ristics			
Concentration of substance Covers percentage substance in Amount used, frequency a	•			
Duration: Covers daily exposures up to 8	hours			
Technical and organisatio	nal conditions and measures			
Technical and organisationa Provide a good standard of cont	l measures rolled 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 E	N374.			
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) characte	ristics			
Physical form of product: Liquid, vapour pressure 0,5 - 10	D kPa at STP			
Concentration of substance Covers percentage substance in	•			
Amount used, frequency a	nd duration of use/exposure			
Duration: Covers daily exposures up to 8	hours			

Technical and organisation Provide a good standard of co		air changes per hour).		
		protection, hygiene and health evaluation		
Personal protection Use suitable eye protection. Wear suitable gloves tested to Wear a respirator conforming				
Other conditions affectin	ng worker exposure			
Outdoor use				
5.2. CS11: Worker Contrib	uting Scenario: General	use from professional operators (PROC13)		
Process Categories	Treatment of articles	s by dipping and pouring (PROC13)		
Product (article) charac	teristics			
Physical form of product: Liquid, vapour pressure 0,5 -	10 kPa at STP			
Concentration of substance Covers percentage substance	-			
Amount used, frequency	and duration of use/e	exposure		
Duration: Covers daily exposures up to	8 hours			
Conditions and measure	s related to personal p	protection, hygiene and health evaluation		
Personal protection Use suitable eye protection. Wear suitable gloves tested to	o EN374.			
5.2. CS12: Worker Contrib	uting Scenario: General	use from professional operators (PROC19)		
Process Categories Manual activities involving hand contact (PROC19)				
Product (article) charac	teristics			
Physical form of product: Liquid, vapour pressure 0,5 -				
Concentration of substance Covers percentage substance	•			
Amount used, frequency	and duration of use/e	exposure		
Duration: Covers daily exposures up to	8 hours			
Conditions and measure	s related to personal p	protection, hygiene and health evaluation		
Personal protection Use suitable eye protection. Wear suitable gloves tested to	o EN374.			
5.3 Exposure estim	nation and refere	nce to its source		
5.3. CS1: Environment Con	tributing Scenario: Cove	ered 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/m ³	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:

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 aber 8.04p		
Sector(s) of use	Professional uses (SU22)	
Environment Contributing Scenario		
CS1 Covered by ERC9a - ERC9b		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 professiona	CS6 General use from professional operators	
CS7 General use from profession	al operators	PROC16

6.2 Conditions of use affecting exposure

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

Professional uses

Environmental release	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor)
categories	(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:

Main user group

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
Process Categories	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 Covers percentage substance in	•				
Technical and organisation	al conditions and measures				
Technical and organisational Handle substance within a closed Store substance within a closed sp	system.				
Conditions and measures re	elated to personal protection, hygiene and health evaluation				
Personal protection Use suitable eye protection.					
6.2. CS3: Worker Contributing	s 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) character	istics				
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP				
Concentration of substance in Covers percentage substance in	•				
Technical and organisation	al conditions and measures				
Technical and organisational Handle substance within a closed Store substance within a closed s	system.				
Conditions and measures re	elated to personal protection, hygiene and health evaluation				
Personal protection Use suitable eye protection.					
6.2. CS4: Worker Contributing	s 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) character	istics				
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP				
Concentration of substance in Covers percentage substance in	•				
Technical and organisation	al conditions and measures				
Technical and organisational Handle substance within a closed Store substance within a closed sy	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) character	istics				
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 r Handle substance within a closed Store substance within a closed sy	system.			
Conditions and measures re	elated to personal protecti	ion, 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 mixt	ure (charging and discharging) at dedicated facilities (PROC8b)		
Product (article) character	istics			
Physical form of product: Liquid, vapour pressure 0,5 - 10 k	«Pa at STP			
Concentration of substance in Covers percentage substance in t	the product up to 100 %.			
Technical and organisation		es		
Technical and organisational r Handle substance within a closed Store substance within a closed sy	system.			
Conditions and measures re	elated to personal protecti	ion, hygiene and health evaluation		
Personal protection Use suitable eye protection.				
6.2. CS7: Worker Contributing	Scenario: General use from	professional operators (PROC16)		
rocess Categories Use of fuels (PROC16)				
Product (article) character	istics			
Physical form of product: Liquid, vapour pressure 0,5 - 10 k	«Pa at STP			
Concentration of substance in Covers percentage substance in t	-			
Technical and organisation	al conditions and measur	es		
Technical and organisational in Handle substance within a closed Store substance within a closed sy	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 Contrib	outing Scenario: Covered by	(ERC9a, ERC9b)		
Release route	Release rate	Release estimation method		
הכופמצי וטעופ	れてにはると てんしせ			
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:

7. ES 7 Consu	ımer 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 Sce	nario		
CS1 Covered by		ERC9b	
Consumer Contributing Scenar	rio		
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 Contrib	uting Scenario: Covered by (ERC9b)		
Environmental release categories	Widespread use of functional fluid (outdoor) (FR('9h)		
Product (article) characteristics			
Physical form of product: Liquid			
Vapour pressure: 5726 Pa			
Conditions and measures re	lated to treatment of waste (including article	waste)	
Waste treatment Product residual disposal complies	with applicable regulations.		
Other conditions affecting e	nvironmental 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 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 ye		
Other conditions affecting	consumers exposure	
Outdoor use		
Additional conditions human Covers skin contact area up to 21		
7.2. CS3: Consumer Contribut	ing Scenario: Consumer (PC13)	
Product Categories	Fuels (PC13)	
Product (Sub-)Categories	Liquid Scooter Refuelling (PC13_2)	
Product (article) character	istics	
Concentration of substance in Covers concentrations up to 85	•	
Amount used, frequency an	d duration of use/exposure	
Amounts used: Amount per use 37500 g		
Duration: Exposure duration 0.033 h/even Frequency: Covers use up to 51 times per ye		
Other conditions affecting	consumers exposure	
Outdoor use		
Additional conditions human Covers skin contact area up to 21		
	ing Scenario: Consumer (PC13)	
Product Categories	Fuels (PC13)	
Product (Sub-)Categories	Liquid, Garden equipment - Use (PC13_3)	
Product (article) character	Product (article) characteristics	
Concentration of substance in Covers concentrations up to 15	•	
Amount used, frequency an	d 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 ye	ear	
Other conditions affecting	consumers exposure	
Outdoor use		
Additional conditions human Covers skin contact area up to 21		
7.2. CS5: Consumer Contribut	ing Scenario: Consumer (PC13)	
Product Categories	Fuels (PC13)	

Product	(Sub-)Categories
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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/m ³	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/m ³	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/m ³	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:

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

8.1 TITLE SECTION

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 S	cenario		
CS1 Covered by		ERC8a - ERC8d	
Consumer Contributing Scen	nario		
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	
0.2 Conditions of us			

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)

Hazardous waste incineration		Waste - minimum efficiency of: 99.8 %
Other conditions affecting	g environmental expo	osure
Local marine water dilution	factor: 100	
Local freshwater dilution fa		
Receiving surface water flo 8.2. CS2: Consumer Contrib		mer (PC1)
Product Categories	Adhesives, sealants (
Product (Sub-)Categories	Glues, hobby use (PC	
		1_1)
Product (article) charact		
Covers concentrations up to 7	•	
Amount used, frequency o	and duration of use/e	exposure
Amounts used: Amount per use 50 g		
Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 1 even	ts per day	
Other conditions affecting	g consumers exposur	e
Room size: Covers use in room si	ize of 20 m ³	
Additional conditions huma Covers skin contact area up to		
8.2. CS3: Consumer Contrib	outing Scenario: Consur	ner (PC1)
	Adhesives, sealants (PC1)	
Product Categories	Adhesives, sealants ((PC1)
Product Categories Product (Sub-)Categories	Adhesives, sealants (Glue from spray (PC1	
Product (Sub-)Categories	Glue from spray (PC1	
Product (Sub-)Categories Product (article) charact	Glue from spray (PC1 eristics e in product:	
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3	Glue from spray (PC1 eristics e in product: 30 %	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of	Glue from spray (PC1 eristics e in product: 30 %	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration:	Glue from spray (PC1 eristics e in product: 30 %	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event	Glue from spray (PC1 eristics in product: 30 % and duration of use/e	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 6 times	Glue from spray (PC1 eristics e in product: 30 % and duration of use/e	1_3) exposure
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency:	Glue from spray (PC1 eristics in product: 30 % and duration of use/e s per year g consumers exposur	1_3) exposure
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 6 times Other conditions affecting	Glue from spray (PC1 eristics e in product: 30 % and duration of use/e s per year g consumers exposur ize of 20 m ³ an health	1_3) exposure
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 6 times Other conditions affecting Room size: Covers use in room size	Glue from spray (PC1 eristics e in product: 30 % and duration of use/e s per year g consumers exposur ize of 20 m ³ an health 35 cm ²	exposure

Product (article) characteri	Product (article) characteristics		
Concentration of substance in product:			
Covers concentrations up to 30 %			
Amount used, frequency and	l duration of use/exposure		
Amounts used: Amount per use 50 g			
Duration: Exposure duration 1 h/event Frequency: Covers exposure up to 1 events p	er dav		
Other conditions affecting c			
Room size: Covers use in room size of	-		
Additional conditions human I Covers skin contact area up to 35 o			
8.2. CS5: Consumer Contributi	ng Scenario: Consumer (PC3)		
Product Categories	Air care products (PC3)		
Product (Sub-)Categories	Air care, instant action (aerosol sprays) (PC3_1)		
Product (article) characteri	stics		
Concentration of substance in Covers concentrations up to 40 %	•		
Amount used, frequency and	l 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 p	er dav		
Other conditions affecting c			
Room size: Covers use in room size of	of 20 m ³		
Additional conditions human l			
8.2. CS6: Consumer Contributi	ng Scenario: Consumer (PC3)		
Product Categories	Air care products (PC3)		
Product (Sub-)Categories	Air care, continuous action (solid and liquid) (PC3_2)		
Product (article) characteri	stics		
Concentration of substance in Covers concentrations up to 10 %			
Amount used, frequency and	l duration of use/exposure		
Amounts used: Amount per use 50 g			
Duration: Exposure duration 8 h/event Frequency:			

Covers exposure up to 1 events p	er day			
Other conditions affecting c	onsumers exposure			
Room size: Covers use in room size	-			
Additional conditions human	boalth			
Covers skin contact area up to 35				
8.2. CS7: Consumer Contributi	ng Scenario: Consumer (PC8)			
Product Categories	Biocidal products (PC8)			
Product (Sub-)Categories	Laundry and dish washing products (PC35_1, PC8_1)			
Product (article) characteri	istics			
Concentration of substance in Covers percentage substance in t	•			
Amount used, frequency and	d 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 p	er day			
Other conditions affecting c	onsumers exposure			
Room size: Covers use in room size	of 20 m³			
Additional conditions human Covers skin contact area up to 857				
8.2. CS8: Consumer Contributi	ng Scenario: Consumer (PC8)			
Product Categories Biocidal products (PC8)				
Product (Sub-)CategoriesCleaners, 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 Covers percentage substance in t	•			
Amount used, frequency and	d 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 c	onsumers exposure			
Room size: Covers use in room size	of 20 m³			
Additional conditions human Covers skin contact area up to 857				
8.2. CS9: Consumer Contributi	ng 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) charact	reristics			
Concentration of substance Covers concentrations up to 2	•			
Amount used, frequency	and duration of use/exposure			
Amounts used: Amount per use 50 g				
Duration: Exposure duration 0.2 h/ever Frequency: Covers exposure up to 125 tin				
Other conditions affecting	g consumers exposure			
Room size: Covers use in room s Ventilation rate: Covers use un				
Additional conditions hum Covers skin contact area up to				
8.2. CS10: Consumer Contr	ibuting Scenario: Consumer (PC18)			
Product Categories	Ink and toners (PC18)			
Product (article) charact	eristics			
Concentration of substance Covers concentrations up to 9	•			
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				
Other conditions affecting Room size: Covers use in room s	ize of 20 m ³			
Ventilation rate: Covers use un	der typical household ventilation.			
Additional conditions hum Covers skin contact area up to				
8.2. CS11: Consumer Contr	ibuting Scenario: Consumer (PC23)			
Product Categories	Leather treatment products (PC23)			
Product (Sub-)Categories	Product (Sub-)Categories Polishes, wax/cream (floor, furniture, shoes) (PC23_1, PC31_1)			
Product (article) charact	<i>veristics</i>			
Concentration of substance Covers concentrations up to 9	•			
Amount used, frequency	and duration of use/exposure			
Amounts used: Amount per use 50 g				
Duration: Exposure duration 1.2 h/ever Frequency:				

Covers exposure up to 29 times per year

Other conditions affecting c	onsumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	of 20 m ³
Additional conditions human Covers skin contact area up to 430	
· · ·	ting Scenario: Consumer (PC23)
Product Categories	Leather treatment products (PC23)
Product (Sub-)Categories	Polishes, spray (furniture, shoes) (PC23_2, PC31_2)
Product (article) character	istics
Concentration of substance in Covers concentrations up to 20 %	
Amount used, frequency and	d 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 pe	er year
Other conditions affecting c	consumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 430	
8.2. CS13: Consumer Contribu	ting Scenario: Consumer (PC24)
Product Categories	Lubricants, greases, release products (PC24)
Product (Sub-)Categories	Liquids (PC16_1, PC17_1, PC24_1, 36)
Product (article) character	istics
Concentration of substance in Covers concentrations up to 20 %	
Amount used, frequency and	d 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 pe	er year
Other conditions affecting c	consumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 468	
· · ·	ting Scenario: Consumer (PC27)
Product Categories	Plant protection products (PC27)
Product (article) character	istics

Concentration of substance in	n product:
Covers concentrations up to 50	
Amount used, frequency an	nd 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 Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 85	
8.2. CS15: Consumer Contribu	uting 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) character	ristics
Concentration of substance in Covers concentrations up to 50	
Amount used, frequency an	nd 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 Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 43	
8.2. CS16: Consumer Contribu	uting Scenario: Consumer (PC31)
Product Categories	Polishes and wax blends (PC31)
Product (Sub-)Categories	Polishes, spray (furniture, shoes) (PC23_2, PC31_2)
Product (article) character	ristics
Concentration of substance i Covers concentrations up to 10	•
Amount used, frequency an	nd 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 p	er 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/m ³	N/A	0.00682
inhalative, local, short-term	47.3 mg/m ³	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/m ³	N/A	0.00589
inhalative, local, short-term	0.672 mg/m ³	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/m ³	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/m ³	N/A	0.00119
inhalative, local, short-term	6.24 mg/m ³	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/m ³	N/A	0.000322
inhalative, local, short-term	3.36 mg/m ³	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/m ³	N/A	0.137
inhalative, local, short-term	15.7 mg/m ³	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/m ³	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/m ³	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:

Exposure Scenario, 19/07/2019

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

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

1. ES 1 Use at industrial site					
1.1 TITLE SECTION					
Exposure Scenario name	Sure Scenario name Use in cleaning agents				
Date - Version	18/07/2019 - 1.0				
Life Cycle Stage	Use at industrial site				
Main user group	Industrial uses				
Sector(s) of use	Industrial uses (SU3)				
Environment Contributing Sce	nario				
CS1 Covered by		ERC4			
Worker Contributing Scenario					
CS2 Industrial		PROC1			
CS3 Industrial		PROC2			
CS4 Industrial		PROC3			
CS5 Industrial		PROC4			
CS6 Industrial		PROC8b			
CS7 Industrial		PROC7			
CS8 Industrial		PROC8a			
CS9 Industrial		PROC10			
CS10 Industrial		PROC13			
1.2 Conditions of use	affecting exposure				
1.2. CS1: Environment Contrib	uting Scenario: Covered by (ERC4)				
Environmental release categories	Use of non-reactive processing aid at industrial site (n	o inclusion into or onto article) (ERC4)			
Product (article) characteri	stics				
Physical form of product: Liquid					
Vapour pressure: 0.123 hPa					
1.2. CS2: Worker Contributing	Scenario: Industrial (PROC1)				
Process Categories	Chemical production or refinery in closed process with processes with equivalent containment conditions (PF	•			
	Product (article) characteristics				
Concentration of substance in product: Covers percentage substance in the product up to 100 %.					
Amount used, frequency and	duration of use/exposure				
Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year					
Conditions and measures re	lated to personal protection, hygiene and hea	lth evaluation			
Personal protection					

Wear suitable gloves tested to EN	374.		
Other conditions affecting v	vorker exposure		
Indoor use			
1.2. CS3: Worker Contributing	Scenario: Industrial (PROC2)		
Process Categories	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)		
Product (article) character	stics		
Concentration of substance in Covers percentage substance in t			
Amount used, frequency and	l duration of use/exposure		
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs		
Conditions and measures re	lated to personal protection, hygiene and health evaluation		
Personal protection Wear suitable gloves tested to EN	374.		
Other conditions affecting v	vorker exposure		
Indoor use			
1.2. CS4: Worker Contributing	Scenario: Industrial (PROC3)		
Process Categories	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)		
Product (article) character	stics		
Concentration of substance in Covers percentage substance in t	•		
Amount used, frequency and	l duration of use/exposure		
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs		
Conditions and measures re	lated to personal protection, hygiene and health evaluation		
Personal protection Wear suitable gloves tested to EN	374.		
Other conditions affecting v	orker exposure		
Other conditions affecting v	orker exposure		
	-		
Indoor use	-		
Indoor use 1.2. CS5: Worker Contributing	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4)		
Indoor use 1.2. CS5: Worker Contributing Process Categories	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4) stics product:		
Indoor use 1.2. CS5: Worker Contributing Process Categories Product (article) characteria Concentration of substance in	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4) stics product: he product up to 100 %.		
Indoor use 1.2. CS5: Worker Contributing Process Categories Product (article) characteria Concentration of substance in Covers percentage substance in t	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4) stics product: he product up to 100 %. d duration of use/exposure		

Other conditions affecting worker exposure Indoor use 1.2. CS6: Worker Contributing Scenario: Industrial (PROC8b) Process Categories Transfer of substance or mixture (charging and discharging) at d Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in the product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used substance in the product up to 100 %. Amount used frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Oureers ality exposures up to 8 hours Frequency:					
1.2. CS6: Worker Contributing Scenario: Industrial (PROC8b) Process Categories Transfer of substance or mixture (charging and discharging) at d Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Industrial (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Indoor use Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions affecting worker exposure Industrial protection, hygiene and health evalue Personal protection Use freque					
Process Categories Transfer of substance or mixture (charging and discharging) at de Product (article) characteristics Concentration of substance in the product: Covers parentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Covers faily exposures up to 8 hours Frequency: I.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers parentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency: Use frequency: Use frequency: Conditions affecting worker exposure Comores Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use					
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Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Indoor use 1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Covers percentage substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount suse1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other condit	ng) at dedicated facilitie	es (PROC8b)			
Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dther conditions affecting worker exposure Induor use I.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amounts used: Amount suse1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure Indoor use Covers use in room size of > 1000 m ³ L2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at n Transfer of substance or mixture (charging and discharging) at n					
Duration: Covers daily exposures up to 8 hours requency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dther conditions affecting worker exposure Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100%. Amount used, frequency and duration of use/exposure Amount used if we prove to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Dermal - minimum efficiency of: 90 9 Distriction: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Deter conditions affecting worker exposure Other conditions affect					
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Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Indoor use 1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
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Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 % Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
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Other conditions affecting worker exposure ndoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Indoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at no	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 %				
Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at not substance or mixture (charging at not substa					
1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at ne					
Transfer of substance or mixture (charging and discharging) at n					
·/	ng) at non-dedicated fa	cilities			
Product (article) characteristics					
Concentration of substance in product:					

	cy and duration of use/exposure			
Duration: Covers daily exposures up Frequency: Use frequency 240 days pe				
	res related to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested	d to EN374.			
Other conditions affect	ting worker exposure			
Indoor use Ventilation rate: > 90 %				
1.2. CS9: Worker Contrib	outing Scenario: Industrial (PROC10)			
Process Categories	Roller application or brushing (PROC10)			
Product (article) chard	ncteristics			
Concentration of substar Covers percentage substar	nce in product: nce in the product up to 100 %.			
Amount used, frequend	cy and duration of use/exposure			
Duration: Covers daily exposures up Frequency: Use frequency 240 days pe				
Conditions and measu	res related to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested Use suitable eye protection				
Other conditions affect	ting worker exposure			
Indoor use				
1.2. CS10: Worker Contri	ibuting Scenario: Industrial (PROC13)			
Process Categories	Treatment of articles by dipping and pouring (PROC13)			
Product (article) chard	acteristics			
Concentration of substan	nce in product: nce in the product up to 100 %.			
Amount used, frequency and duration of use/exposure				
Duration: Covers daily exposures up Frequency: Use frequency 240 days pe				
Conditions and measures related to personal protection, hygiene and health evaluation				
Personal protection Wear suitable gloves tested Use suitable eye protection				
Other conditions affect	ting worker exposure			
Indoor use				
1.3 Exposure esti	mation and reference to its source			

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
N/A	EASY TRA v2.0	0.001
N/A	EASY TRA v2.0	0.001
N/A	EASY TRA v2.0	0.003
N/A	EASY TRA v2.0	0.004
	N/A N/A N/A	N/AEASY TRA v2.0N/AEASY TRA v2.0N/AEASY TRA v2.0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2. ES 2 Widespread use by professional workers

2.1 TITLE SECTION

2.1 IIILE SECTION		
Exposure Scenario name	Use in cleaning agents	
Date - Version	19/07/2019 - 1.0	
Life Cycle Stage	Widespread use by professional workers	
Main user group	Professional uses	
Sector(s) of use	Professional uses (SU22)	
Environment Contributing Sce	nario	
CS1 Covered by		ERC8a - ERC8d
Worker Contributing Scenario		
CS2 General use from profession	al operators	PROC1
CS3 General use from profession	al operators	PROC2
CS4 General use from profession	al operators	PROC3
CS5 General use from profession	al operators	PROC4
CS6 General use from profession	al operators	PROC8b
CS7 General use from profession	al operators	PROC8a
CS8 General use from profession	al operators	PROC10
CS9 General use from profession	al operators	PROC11
CS10 General use from profession	nal operators	PROC13

2.2 Conditions of use affecting exposure

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

Environmental release categories Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -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: 0.123 hPa	
2.2. CS2: Worker Contributing	Scenario: General use from professional operators (PROC1)
Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)
Product (article) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	l duration of use/exposure

Duration:	
Covers daily exposures up to	28 hours
Frequency:	
Use frequency 240 days per	
	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested to Use suitable eye protection.	o EN374.
Other conditions affectin	ng worker exposure
Indoor use	
2.2. CS3: Worker Contribu	ting 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) charac	teristics
Physical form of product: Liquid	
Concentration of substance Covers percentage substance	c e in product: .e in the product up to 100 %.
Amount used, frequency	and duration of use/exposure
Duration:	
Covers daily exposures up to Frequency:	
Use frequency 240 days per	
	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested to	o EN374.
Use suitable eye protection.	
Other conditions affectin	ng worker exposure
	ng worker exposure
Other conditions affectin	
Other conditions affectin	ng worker exposure ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) Ceteristics
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) Interistics
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) cteristics ce in product: e in the product up to 100 %.
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charace Physical form of product: Liquid Concentration of substance Covers percentage substance Amount used, frequency	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) eteristics teristics teristics and duration of use/exposure o 8 hours
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance Amount used, frequency Duration: Covers daily exposures up to Frequency: Use frequency 240 days per	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) eteristics teristics teristics and duration of use/exposure o 8 hours
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance Amount used, frequency Duration: Covers daily exposures up to Frequency: Use frequency 240 days per	Iting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) Interistics The product: e in the product up to 100 %. and duration of use/exposure b 8 hours year ess related to personal protection, hygiene and health evaluation
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substanc Covers percentage substance Amount used, frequency Duration: Covers daily exposures up to Frequency: Use frequency 240 days per Conditions and measure Personal protection Wear suitable gloves tested to	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) eteristics ce in product: e in the product up to 100 %. and duration of use/exposure b 8 hours year cs related to personal protection, hygiene and health evaluation o EN374.

	Scenario: General use from professional operators (PROC4)
Process Categories	Chemical production where opportunity for exposure arises (PROC4)
Product (article) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	l duration of use/exposure
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs
Conditions and measures re	lated to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested to EN Use suitable eye protection.	374.
Other conditions affecting w	vorker exposure
Indoor use	
2.2. CS6: Worker Contributing	Scenario: General use from professional operators (PROC8b)
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) characteri	stics
Physical form of product: Liquid Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	······································
	l duration of use/exposure
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN	burs Plated to personal protection, hygiene and health evaluation 374.
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection.	burs Plated to personal protection, hygiene and health evaluation 374.
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting we Indoor use	burs Plated to personal protection, hygiene and health evaluation 374.
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting we Indoor use	burs Nated to personal protection, hygiene and health evaluation 374. Porker exposure
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting w Indoor use 2.2. CS7: Worker Contributing	burs Plated to personal protection, hygiene and health evaluation 374. 374. 375 Scenario: General use from professional operators (PROC8a) Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting w Indoor use 2.2. CS7: Worker Contributing Process Categories	burs Plated to personal protection, hygiene and health evaluation 374. 374. 375 Scenario: General use from professional operators (PROC8a) Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting w Indoor use 2.2. CS7: Worker Contributing Process Categories Product (article) characteric Physical form of product:	and the second s

Corrers daily reposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gives tested to EN374. Use suitable eye protection. Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Layad Concentration of substance in product: Covers daily reposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Inhalation - minimum efficiency of: 80 % Wear suitable gives tested to EN374. Use suitable eye protection. Wear suitable gives tested to EN374. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Inhalation - minimum efficiency of: 80 % Ventilation rate: 80 % 2.2. CS9: Worker	Duration:		
Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gives tested to EN374. Use suitable eve protection. Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 22. CS3: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Covers relating a substance in product: Uage dialy exposures up to 8 hours Frequency: Covers dialy exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Inhalation - minimum efficiency of: 80 % Wear suitable gives tested to FN374. Use suitable eve protection. Wear suitable eve protection. Inhalation - minimum efficiency of: 80 % 22. CS3: Worker Contributing Scenar		o 8 hours	
Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable eye protection. Other conditions affecting worker exposure indoor use Ventilation rate: 80 % 2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Laqud Concentration of substance in product: Covers gencentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Vear suitable eye protection. Inhalation - minimum efficiency of: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Process Ca			
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Amounts used: Amount per use 0.05 L/min Duration:		-	
Amount per use 0.05 L/min Duration:	Amount used, frequency	[,] and duration of use/expos	ure
	Duration:		
Exposure duration 180 min Frequency:	Exposure duration 180 min		

Frequency:

	rweek	
Technical and organise	ntional conditions and me	asures
Technical and organisation Provide a good standard of	onal measures controlled ventilation (10 to 15 air	changes per hour).
-		otection, hygiene and health evaluation
Personal protection		
Wear suitable gloves tested t	o EN374.	Inhalation - minimum efficiency of: 90 %
Use suitable eye protection.		
Wear suitable respiratory pro	tection.	Inhalation - minimum efficiency of: 80 %
Other conditions affect	ing worker exposure	
Indoor use Room size: Covers use in roor Ventilation rate: 80 %	n size of > 100 m ³	
2.2. CS10: Worker Contri	buting Scenario: General us	e from professional operators (PROC13)
		e from professional operators (PROC13) / dipping and pouring (PROC13)
Process Categories	Treatment of articles by	
Process Categories Product (article) chara	Treatment of articles by	
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar	Treatment of articles by acteristics	
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar	Treatment of articles by acteristics	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up	Treatment of articles by acteristics the in product: the in the product up to 100 %. By and duration of use/exp	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up	Treatment of articles by acteristics the in product: the in the product up to 100 %. By and duration of use/exp to 8 hours	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up Frequency: Use frequency < 240 days	Treatment of articles by acteristics the product: the product up to 100 %. The product up to 100 %. The product up to 100 %.	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up Frequency: Use frequency < 240 days	Treatment of articles by acteristics the product: the product up to 100 %. The product up to 100 %. The product up to 100 %.	y dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up Frequency: Use frequency < 240 days Conditions and measur	Treatment of articles by acteristics the in product: the product up to 100 %. The product up to 100 %. The product of the product up to 100 %. The product of the product o	y dipping and pouring (PROC13)

Other conditions affecting worker exposure

Indoor use

2.3 Exposure estimation and reference to its source

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Guidance to check compliance with the exposure scenario:

3. ES 3 Widespread use by professional workers

3.1 TITLE SECTION

3.1 TITLE SECTION				
Exposure Scenario name	Use in antifreeze products			
Date - Version	19/07/2019 - 1.0			
Life Cycle Stage	Widespread use by professional workers			
Main user group	Professional uses			
Sector(s) of use	Professional uses (SU22)			
Environment Contributing Sce	nario			
CS1 Covered by		ERC8d		
Worker Contributing Scenario				
CS2 General use from professiona	al operators	PROC1		
CS3 General use from professiona	al operators	PROC2		
CS4 General use from professiona	al operators	PROC8a		
CS5 General use from professiona	al operators	PROC8b		
CS6 General use from professiona	al operators	PROC11		
3.2 Conditions of use	affecting exposure			
3.2. CS1: Environment Contrib	uting Scenario: Covered by (ERC8d)			
Environmental release categories	Widespread use of non-reactive processing aid (no inc (ERC8d)	clusion into or onto article, outdoor)		
Product (article) characteristics				
Physical form of product: Liquid				
Vapour pressure: 0.123 hPa				
3.2. CS2: Worker Contributing	Scenario: General use from professional operato	rs (PROC1)		
Process Categories	Chemical production or refinery in closed process with processes with equivalent containment conditions (PF	-		
Product (article) characteri				
Concentration of substance in Covers percentage substance in t	•			
Amount used, frequency and duration of use/exposure				
Duration:				
Covers daily exposures up to 8 hours Frequency: Covers exposure up to 240 days per year				
Technical and organisational conditions and measures				
Technical and organisational n Use in contained systems	neasures			
Conditions and measures related to personal protection, hygiene and health evaluation				
	natea to personal protection, nygiene and nea			

Wear suitable gloves tested to EN374.

Other conditions affecting w	orker exposure		
Indoor use			
3.2. CS3: Worker Contributing	Scenario: General use fro	m 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) characteri	stics		
Concentration of substance in Covers percentage substance in t	•		
Amount used, frequency and	duration of use/exposu	re	
Duration: Covers daily exposures up to 8 ho Frequency: Covers exposure up to 240 days p			
Technical and organisation	al conditions and measu	res	
Technical and organisational n Use in contained systems	neasures		
Conditions and measures re	lated to personal protec	tion, hygiene and health evaluation	
Personal protection Wear suitable gloves tested to ENS	74.		
Other conditions affecting w	orker exposure		
Indoor use			
3.2. CS4: Worker Contributing	Scenario: General use fro	n professional operators (PROC8a)	
Process Categories	Transfer of substance or mix (PROC8a)	cture (charging and discharging) at non-dedicated facilities	
Product (article) characteri	stics		
Concentration of substance in Covers percentage substance in the			
Amount used, frequency and		re	
Duration: Covers daily exposures up to 8 ho Frequency: Covers exposure up to 240 days p	urs		
Technical and organisation	al conditions and measu	res	
Technical and organisational n Use in contained systems	neasures		
Conditions and measures re	lated to personal protec	tion, hygiene and health evaluation	
Personal protection			
Wear suitable gloves tested to EN37	4.		
Wear suitable respiratory protection		Inhalation - minimum efficiency of: 80 %	
Other conditions affecting w	orker exposure		
Indoor use Ventilation rate: 80 %			
3.2. CS5: Worker Contributing	Scenario: General use fro	n professional operators (PROC8b)	
Process Categories	Categories Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)		

Product (article) characteri					
Concentration of substance in Covers percentage substance in t		%.			
Amount used, frequency and	d duration of use	e/exposur	е		
Duration: Covers daily exposures up to 8 hc Frequency: Covers exposure up to 240 days p					
Technical and organisation	al conditions an	d measure	es		
Technical and organisational r Use in contained systems	neasures				
Conditions and measures re	lated to persond	al protecti	on, h	ygiene and health	evaluation
Personal protection Wear suitable gloves tested to EN	374.				
Other conditions affecting w	vorker exposure				
Indoor use					
3.2. CS6: Worker Contributing	Scenario: Genera	l use from	prof	essional operators (PROC11)
Process Categories	Non industrial spr	aying (PROC	211)		
Product (article) characteristics					
Concentration of substance in Covers percentage substance in t	•	%.			
Amount used, frequency and	d duration of use	e/exposur	е		
Duration: Exposure duration 180 min Frequency: Covers exposure up to 5 days per	week				
Technical and organisation	al conditions an	d measure	es		
Technical and organisational r Use in contained systems	neasures				
Conditions and measures re	lated to persond	il protecti	on, h	ygiene and health	evaluation
Personal protection					
Wear suitable gloves tested to EN37	74.		Derr	nal - minimum efficiency	of: 90 %
Other conditions affecting w	vorker exposure				
Indoor use Room size: Covers use in room size of	of > 100 m³				
3.3 Exposure estimat		ren <u>ce to</u>	o <u>its</u>	s sour <u>ce</u>	
3.3. CS2: Worker Contributing					PROC1)
Exposure route, Health effect, Ex	posure indicator	Exposure l	evel	Calculation method	Risk Characterization Ratio (RCR)

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

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

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

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

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

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

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

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

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

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

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

Guidance to check compliance with the exposure scenario:

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

4.1 TITLE SECTION

4.1 IIILE SECTION		
Exposure Scenario name	Consumer goods	
Date - Version	19/07/2019 - 1.0	
Life Cycle Stage	Consumer use	
Main user group	Consumer uses	
Product Categories	Coatings and paints, thinners, paint removers (PC9a) and de-icing products (PC4) - Biocidal products (PC8) products (PC15) - Heat transfer fluids (PC16) - Hydrau - Leather treatment products (PC23) - Polishes and wa and compounds (PC32) - Textile dyes and impregnatin cleaning products (PC35)	- Non-metal surface treatment lic fluids (PC17) - Ink and toners (PC18) ax blends (PC31) - Polymer preparations
Environment Contributing Sce	nario	
CS1 Covered by		ERC8a - ERC8c - ERC8d - ERC8f - ERC9a - ERC9b
Consumer Contributing Scena	rio	
CS2 Consumer		PC1
CS3 Consumer		PC4 - PC16 - PC17 - PC4_1
CS4 Consumer PC4 - PC4_2		PC4 - PC4_2
CS5 Consumer PC9a - PC15 - PC9a_2, PC15_2		
CS6 Consumer		PC8
CS7 Consumer		PC18
CS8 Consumer		PC31
CS9 Consumer		PC32
CS10 Consumer		PC35 - PC8_2, PC35_2
CS11 Consumer		PC35 - PC8_3, PC35_3
CS12 Consumer		PC15 - PC23 - PC34 - PC9a_1, PC15_1
4.2 Conditions of use	affecting exposure	

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

Environmental release categories

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

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

4.2. CS2: Consumer Contributi	ng Scenario: Consumer (PC1)
Product Categories	Adhesives, sealants (PC1)

roduct Categories	
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Product (article) characte	ristics
Concentration of substance Covers concentrations up to 0.7	•
4.2. CS3: Consumer Contribu	ting Scenario: Consumer (PC4, PC16, PC17)
Product Categories	Anti-freeze and de-icing products - Heat transfer fluids - Hydraulic fluids (PC4, PC16, PC17)
Product (Sub-)Categories	Washing car window (PC4_1)
Product (article) characte	ristics
Concentration of substance Covers concentrations up to 45	•
Amount used, frequency an	nd duration of use/exposure
Duration: Exposure duration < 15 min	
4.2. CS4: Consumer Contribu	ting Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (Sub-)Categories	Pouring into radiator (PC4_2)
Product (article) characte	ristics
Concentration of substance in Covers percentage substance in	•
4.2. CS5: Consumer Contribu	ting Scenario: Consumer (PC9a, PC15)
Product Categories	Coatings and paints, thinners, paint removers - Non-metal surface treatment products (PC9a, PC15)
Product (Sub-)Categories	Solvent rich, high solid, water borne paint (PC9a_2, PC15_2)
Product (article) characte	ristics
Concentration of substance in Covers concentrations up to 10	•
4.2. CS6: Consumer Contribu	ting Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
4.2. CS7: Consumer Contribu	ting Scenario: Consumer (PC18)
Product Categories	Ink and toners (PC18)
Product (article) characte	ristics
Concentration of substance in Covers percentage substance in	•
4.2. CS8: Consumer Contribu	ting Scenario: Consumer (PC31)
Product Categories	Polishes and wax blends (PC31)
Product (article) characte	ristics
Concentration of substance in Covers concentrations up to 10	•
4.2. CS9: Consumer Contribu	ting Scenario: Consumer (PC32)
Product Categories	Polymer preparations and compounds (PC32)
Product (article) characte	ristics
Concentration of substance in Covers percentage substance in	
4.2. CS10: Consumer Contrib	uting Scenario: Consumer (PC35)

Product Categories	Washing and cleaning products (PC35)
Product (Sub-)Categories	Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC8_2, PC35_2)
Product (article) charact	eristics
Concentration of substance Covers concentrations up to 2	•
4.2. CS11: Consumer Contri	buting Scenario: Consumer (PC35)
Product Categories	Washing and cleaning products (PC35)
Product (Sub-)Categories	Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (PC8_3, PC35_3)
Product (article) charact	eristics
Concentration of substance Covers percentage substance	•
4.2. CS12: Consumer Contri	buting Scenario: Consumer (PC15, PC23, PC34)
Product Categories	Non-metal surface treatment products - Leather treatment products - Textile dyes and impregnating products (PC15, PC23, PC34)
Product (Sub-)Categories	Waterborne latex wall paint (PC9a_1, PC15_1)
4.3 Exposure estim	ation and reference to its source
	uting Scenario: Consumer (PC1)

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

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

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
N/A	N/A	0.28
N/A	N/A	0.08
N/A	N/A	0.36
	N/A N/A	N/A N/A N/A

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Guidance to check compliance with the exposure scenario:

Exposure Scenario, 24/07/2019

Substance identity	
Chemical name	propan-2-olo; alcool isopropilico
CAS No.	67-63-0
EINECS No.	200-661-7

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- 1. **ES 1** Widespread use by professional workers
- 2. **ES 2** Widespread use by professional workers
- 3. **ES 3** Consumer use; Various products (PC9b, PC9a, PC3, PC4, PC8)

1. ES 1 Wides	spread use by professional workers	5
1.1 TITLE SECTION		
Exposure Scenario name	Use in cleaning agents	
Date - Version	24/07/2019 - 1.0	
Life Cycle Stage	Widespread use by professional workers	
Main user group	Industrial uses	
Sector(s) of use	Industrial uses (SU3)	
Worker Contributing Scenario		
CS1 Industrial		PROC8a
CS2 Industrial		PROC2
CS3 Industrial		PROC3
CS4 Industrial		PROC8b
CS5 Industrial		PROC4
CS6 Industrial		PROC13
CS7 Industrial		PROC10
CS8 Industrial		PROC7
1.2 Conditions of use	affecting exposure	
1.2. CS1: Worker Contributing	Scenario: Industrial (PROC8a)	
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	
Product (article) characteri	stics	
Physical form of product: Liquid		
Amount used, frequency and	l duration of use/exposure	
Duration: Covers daily exposures up to 8 ho	urs	
Technical and organisation	al conditions and measures	
Technical and organisational n Clear transfer lines prior to de-cou Provide extract ventilation to point	pling.	
Conditions and measures re	lated to personal protection, hygiene and hea	lth evaluation
Personal protection Wear suitable gloves tested to ENS	374.	
Other conditions affecting w		
Temperature: Covers use at ambien	t temperatures.	
1.2. CS2: Worker Contributing	Scenario: Industrial (PROC2)	
Process Categories	Chemical production or refinery in closed continuous exposure or processes with equivalent containment c	-
		· · · ·
Product (article) characteri	51105	
Product (article) characteria Physical form of product: Liquid	51105	

Duration: Covers daily exposures up to 8 ho	burs							
Technical and organisation	Technical and organisational conditions and measures							
Technical and organisational n Clear transfer lines prior to de-cou								
Conditions and measures re	lated to personal protection, hygiene and health evaluation							
Personal protection Wear suitable gloves tested to ENS	374.							
Other conditions affecting w	vorker exposure							
Temperature: Covers use at ambien	it temperatures.							
1.2. CS3: 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) characteri	stics							
Physical form of product: Liquid								
Amount used, frequency and	l duration of use/exposure							
Duration: Covers daily exposures up to 8 ho	burs							
Technical and organisation	Technical and organisational conditions and measures							
Technical and organisational n Clear transfer lines prior to de-cou								
Conditions and measures re	lated to personal protection, hygiene and health evaluation							
Personal protection Wear suitable gloves tested to EN3	374.							
Other conditions affecting w	vorker exposure							
Temperature: Covers use at ambien	it temperatures.							
1.2. CS4: Worker Contributing	Scenario: Industrial (PROC8b)							
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)							
Product (article) characteri	stics							
Physical form of product: Liquid								
Amount used, frequency and	l duration of use/exposure							
Duration: Covers daily exposures up to 8 ho	burs							
Technical and organisation	al conditions and measures							
Technical and organisational n Clear transfer lines prior to de-cou								
Conditions and measures re	lated to personal protection, hygiene and health evaluation							
Personal protection Wear suitable gloves tested to ENS	374.							
Other conditions affecting w	vorker exposure							
Temperature: Covers use at ambien	it temperatures.							
1.2. CS5: Worker Contributing	Scenario: Industrial (PROC4)							
Process Categories	Chemical production where opportunity for exposure arises (PROC4)							

Physical form of product:	
Liquid	
	v and duration of use/exposure
Duration: Covers daily exposures up to	o 8 hours
Technical and organisa	tional conditions and measures
Technical and organisation Clear transfer lines prior to d Provide extract ventilation to	
Conditions and measure	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested t	to EN374.
Other conditions affection	ng worker exposure
Temperature: Covers use at ar	nbient temperatures.
1.2. CS6: Worker Contribu	uting Scenario: Industrial (PROC13)
Process Categories	Treatment of articles by dipping and pouring (PROC13)
Product (article) charac	cteristics
Physical form of product: Liquid	
Amount used, frequency	v and duration of use/exposure
Duration: Covers daily exposures up to	o 8 hours
0	tional conditions and measures
Technical and organisation Provide extract ventilation to	points where emissions occur.
	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested t	to EN374.
Other conditions affection	ng worker exposure
Temperature: Covers use at ar	mbient temperatures.
1.2. CS7: Worker Contribu	uting Scenario: Industrial (PROC10)
Process Categories	Roller application or brushing (PROC10)
Product (article) charac	cteristics
Physical form of product: Liquid	
Amount used, frequency	v and duration of use/exposure
Duration: Covers daily exposures up to	o 8 hours
Conditions and measure	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested t	to EN374.
-	

Process Categories	Industrial spraying (PROC7)
Product (article) char	acteristics
Physical form of produc	t:
Amount used, frequen	cy and duration of use/exposure
Duration: Covers daily exposures up Frequency: Covers exposure up to 4 h	
Technical and organis	sational conditions and measures
Technical and organisat Provide a good standard o	ional measures f controlled ventilation (5 to 10 air changes per hour).
Conditions and measu	res related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves teste	

Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

Ventilation rate: 70 %

1.3 Exposure estimation and reference to its source

1.3. CS1: Worker Contributing Scenario: Industrial (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m ³	N/A	0.246
dermal, systemic, long-term	13.71 mg/m³	N/A	0.015
combined routes, systemic, long-term	N/A	N/A	0.261

1.3. CS2: Worker Contributing Scenario: Industrial (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	10 mg/m³	N/A	0.049
dermal, systemic, long-term	1.37 mg/m ³	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.051

1.3. CS3: Worker Contributing Scenario: Industrial (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	25 mg/m³	N/A	0.123
dermal, systemic, long-term	0.34 mg/m ³	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.123

1.3. CS4: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m ³	N/A	0.246
dermal, systemic, long-term	6.86 mg/m ³	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.254

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 mg/m³	N/A	0.492
dermal, systemic, long-term	6.86 mg/m ³	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.5

1.3. CS6: Worker Contributing Scenario: Industrial (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m ³	N/A	0.246
dermal, systemic, long-term	13.71 mg/m³	N/A	0.015
combined routes, systemic, long-term	N/A	N/A	0.261

1.3. CS7: Worker Contributing Scenario: Industrial (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m³	N/A	0.246
dermal, systemic, long-term	27.43 mg/m ³	N/A	0.031
combined routes, systemic, long-term	N/A	N/A	0.277

1.3. CS8: Worker Contributing Scenario: Industrial (PROC7)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m³	N/A	0.246
dermal, systemic, long-term	27.43 mg/m³	N/A	0.031

combined routes, systemic, long-term	N/A	N/A	0.277	

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:

2. ES 2 Widespread use by professional workers

2.1 TITLE SECTION

2.1 TITLE SECTION					
xposure Scenario name Use in cleaning agents					
Date - Version	te - Version 24/07/2019 - 1.0				
Life Cycle Stage	e Cycle Stage Widespread use by professional workers				
Main user group	Main user group Professional uses				
Sector(s) of use	Professional uses (SU22)				
Worker Contributing Scenario					
CS1 General use from profession	al operators	PROC8b			
CS2 General use from profession	al operators	PROC2			
CS3 General use from profession	al operators	PROC3			
CS4 General use from profession	al operators	PROC4			
CS5 General use from profession	al operators	PROC8a			
CS6 General use from profession	al operators	PROC13			
CS7 General use from profession	PROC10				
CS8 General use from profession	PROC11				
CS9 General use from professional operators PROC11					
CS10 General use from professional operators PROC10					
CS11 General use from professional operators PROC10					
CS12 General use from profession	nal operators	PROC4			
2.2 Conditions of use	affecting exposure				
2.2. CS1: Worker Contributing	Scenario: General use from professional operato	rs (PROC8b)			
Process Categories	Transfer of substance or mixture (charging and discha	rging) at dedicated facilities (PROC8b)			
Product (article) characteri	stics				
Physical form of product: Liquid					
Amount used, frequency and	l duration of use/exposure				
Duration: Covers daily exposures up to 8 ho	burs				
Conditions and measures related to personal protection, hygiene and health evaluation					
Personal protection Wear suitable gloves tested to EN374.					
Other conditions affecting w	vorker exposure				
Temperature: Covers use at ambien	t temperatures.				
2.2. CS2: Worker Contributing	Scenario: General use from professional operato	rs (PROC2)			
Process Categories	Chemical production or refinery in closed continuous exposure or processes with equivalent containment c	-			
Product (article) characteri	stics	Product (article) characteristics			

Product (article) characteristics

Physical form of product: Liquid Amount used, frequency and duration of use/exposure Cover siduly exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Were valuable glows tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS3: Worker Contributing Scenario: General use from professional operators (PROC3) Process Categories Manufacture or formulation in the chemical industry in closed batch processes with accessional controlled exposure or processes with equivalent containment condition (PROC3) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Covers faily exposures up to 8 hours Covers faily expos	Dhysical form of modulet						
Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN274. Other conditions offecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS3: 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: Uapid Amount used, frequency and duration of use/exposure Outer conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions officiting worker exposure Cenerations officiting worker exposure Covers daily exposures up to 8 hours Conditions officiting worker exposure Covers Categories Chemical production where opportunity for exposure arises (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Process Categories Chemical production and measures Uapid Amount used, frequency and duration of use/exposure							
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Process CategoriesTransfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Temperature: Covers use at am	bient temperatures.					
Process Categories (PROC8a)	2.2. CS5: Worker Contribut	ing Scenario: General use from professional operators (PROC8a)					
Product (article) characteristics	Process Categories						
	Product (article) charact	teristics					
Physical form of product: Liquid							

Amount used, frequency and duration of use/exposure							
Duration: Covers daily exposures up to 8 hours							
Technical and organisation	Technical and organisational conditions and measures						
Technical and organisational n Natural ventilation is from doors, v	neasures windows etc. Controlled ventilation means air is supplied or removed by a powered fan.						
Conditions and measures re	lated to personal protection, hygiene and health evaluation						
Personal protection Wear suitable gloves tested to ENS	374.						
Other conditions affecting w	vorker exposure						
Temperature: Covers use at ambien	t temperatures.						
2.2. CS6: Worker Contributing	Scenario: General use from professional operators (PROC13)						
Process Categories	Treatment of articles by dipping and pouring (PROC13)						
Product (article) characteri	stics						
Physical form of product: Liquid							
Amount used, frequency and	l duration of use/exposure						
Duration: Covers daily exposures up to 8 ho	urs						
Technical and organisation	al conditions and measures						
Technical and organisational n Natural ventilation is from doors, w	neasures windows etc. Controlled ventilation means air is supplied or removed by a powered fan.						
Conditions and measures re	lated to personal protection, hygiene and health evaluation						
Personal protection Wear suitable gloves tested to ENS	374.						
Other conditions affecting w	vorker exposure						
Temperature: Covers use at ambien	t temperatures.						
2.2. CS7: Worker Contributing	Scenario: General use from professional operators (PROC10)						
Process Categories	Roller application or brushing (PROC10)						
Product (article) characteri	stics						
Physical form of product: Liquid							
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 Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.							
Conditions and measures re	Conditions and measures related to personal protection, hygiene and health evaluation						
Personal protection Wear suitable gloves tested to ENS	Personal protection Wear suitable gloves tested to EN374.						
Other conditions affecting w	vorker exposure						
Temperature: Covers use at ambien	t temperatures.						
2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC11)							

Process Categories	Non industrial spraying (PROC11)			
Product (article) character	Product (article) characteristics			
Physical form of product: Liquid				
Concentration of substance in Covers percentage substance in	•			
Amount used, frequency an	d duration of use/exposure			
Duration: Covers daily exposures up to 8 h	ours			
Technical and organisation	nal conditions and measures			
Technical and organisational Natural ventilation is from doors,	measures windows etc. Controlled ventilation means air is supplied or removed by a powered fan.			
Conditions and measures r	elated to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested to EN	1374.			
Other conditions affecting	worker exposure			
Temperature: Covers use at ambie Ventilation rate: 30 %	nt temperatures.			
2.2. CS9: Worker Contributing	g Scenario: General use from professional operators (PROC11)			
Process Categories	Non industrial spraying (PROC11)			
Product (article) character	istics			
Physical form of product: Liquid				
Concentration of substance in Covers concentrations up to 1 %	•			
Amount used, frequency and duration of use/exposure				
Duration: Covers daily exposures up to 8 h	ours			
Technical and organisation	al conditions and measures			
Technical and organisational Provide extract ventilation to mat	measures terial transfer points and other openings.			
Conditions and measures r	elated to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested to EN	1374.			
Other conditions affecting worker exposure				
Temperature: Covers use at ambient temperatures. Ventilation rate: Provide forced ventilation 70 %				
2.2. CS10: Worker Contributing Scenario: General use from professional operators (PROC10)				
Process Categories	Roller application or brushing (PROC10)			
Product (article) character	istics			
Physical form of product: Liquid				
Amount used, frequency and duration of use/exposure				
Duration: Covers daily exposures up to 8 hours				

Technical and organisation	al conditions a	nd measures		
Technical and organisational measures Provide extract ventilation to material transfer points and other openings.				
Conditions and measures re			giene and health e	evaluation
Personal protection Wear suitable gloves tested to EN	374.			
Other conditions affecting v	vorker exposur	е		
Temperature: Covers use at ambien	nt temperatures.			
2.2. CS11: Worker Contributir	g Scenario: Gen	eral use from profe	essional operators (PROC10)
Process Categories	Roller applicatio	on or brushing (PROC1	.0)	
Product (article) character	istics			
Physical form of product: Liquid	•			
Covers percentage substance in Amount used, frequency and				
Duration: Covers daily exposures up to 8 h		se/exposure		
Technical and organisation		nd measures		
Technical and organisational Provide extract ventilation to poir	measures			
Conditions and measures re	elated to person	nal protection, hy	giene and health e	evaluation
Personal protection Wear suitable gloves tested to EN	374.			
Other conditions affecting v	vorker exposur	е		
Temperature: Covers use at ambien	nt temperatures.			
2.2. CS12: Worker Contributir	g Scenario: Gen	eral use from profe	essional operators (PROC4)
Process Categories	Chemical produ	ction where opportur	nity for exposure arise	s (PROC4)
Product (article) character	istics			
Physical form of product: Liquid				
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 Wear suitable gloves tested to EN374.				
Other conditions affecting worker exposure				
Temperature: Covers use at ambien	nt temperatures.			
2.3 Exposure estimat	ion and ref	erence to its	source	
2.3. CS1: 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	50 mg/m³	N/A	0.246
-	dermal, systemic, long-term	13.71 mg/kg bw/day	N/A	0.015
	combined routes, systemic, long-term	N/A	N/A	0.261

2.3. CS2: 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	20 mg/m³	N/A	0.098
dermal, systemic, long-term	1.37 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.1

2.3. CS3: 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	25 mg/m³	N/A	0.123
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.123

2.3. CS4: 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	50 mg/m³	N/A	0.246
dermal, systemic, long-term	6.84 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.254

2.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a)

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
100 mg/m ³	N/A	0.492
13.71 mg/kg bw/day	N/A	0.015
N/A	N/A	0.507
	100 mg/m ³ 13.71 mg/kg bw/day	100 mg/m³ N/A 13.71 mg/kg bw/day N/A

2.3. CS6: 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	100 mg/m³	N/A	0.492
dermal, systemic, long-term	13.71 mg/kg bw/day	N/A	0.015
combined routes, systemic, long-term	N/A	N/A	0.507

2.3. CS7: 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	100 mg/m³	N/A	0.492
dermal, systemic, long-term	27.5 mg/kg bw/day	N/A	0.031
combined routes, systemic, long-term	N/A	N/A	0.523

2.3. CS8: 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	150 mg/m³	N/A	0.737
dermal, systemic, long-term	107.14 mg/kg bw/day	N/A	0.121
combined routes, systemic, long-term	N/A	N/A	0.858

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	35 mg/m³	N/A	0.172
dermal, systemic, long-term	107.14 mg/kg bw/day	N/A	0.121
combined routes, systemic, long-term	N/A	N/A	0.293

2.3. CS10: Worker Contributing Scenario: General use from professional operators (PROC10)

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
100 mg/m³	N/A	0.492
27.43 mg/kg bw/day	N/A	0.031
N/A	N/A	0.523
	100 mg/m³ 27.43 mg/kg bw/day	100 mg/m³ N/A 27.43 mg/kg bw/day N/A

2.3. CS11: 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	100 mg/m³	N/A	0.492
dermal, systemic, long-term	27.43 mg/kg bw/day	N/A	0.031
combined routes, systemic, long-term	N/A	N/A	0.523

2.3. CS12: 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	50 mg/m³	N/A	0.246
dermal, systemic, long-term	6.86 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.254

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:

3. ES 3 Consumer use; Various products (PC9b, PC9a, PC3, PC4, PC8)

3.1 TITLE SECTION

3.1 TITLE SECTION			
Exposure Scenario name	Cleaning agent		
Date - Version	24/07/2019 - 1.0		
Life Cycle Stage	Consumer use		
Main user group	Consumer uses		
Sector(s) of use	Consumer uses (SU21)		
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Air care products (PC3) - Anti-freeze and de-icing products (PC4) - Biocidal products (PC8) - Lubricants, greases, release products (PC24) - Washing and cleaning products (PC35) - Welding and soldering products, flux products (PC38)		
Consumer Contributing Scena	rio		
CS1 Consumer		PC3	
CS2 Consumer		PC3	
CS3 Consumer		PC4	
CS4 Consumer		PC4	
CS5 Consumer	CS5 Consumer		
CS6 Consumer		PC8	
CS7 Consumer		PC8	
CS8 Consumer		PC8	
CS9 Consumer		PC9a	
CS10 Consumer		PC9a	
CS11 Consumer		PC9a	
CS12 Consumer		PC9a	
CS13 Consumer		PC9b	
CS14 Consumer		PC9b	
CS15 Consumer		PC9b	
CS16 Consumer		PC9c	
CS17 Consumer		PC24	
CS18 Consumer		PC24	
CS19 Consumer		PC24	
CS20 Consumer		PC35	
CS21 Consumer		PC35	
CS22 Consumer		PC35	
CS23 Consumer		PC35	
3.2 Conditions of use affecting exposure			

3.2. CS1: Consumer Contribut	ing Scenario: Consumer (PC3)
Product Categories	Air care products (PC3)
Product (article) character	istics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 50 %	-
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 0.5 g	
Frequency: Use frequency 365 days per year	
Frequency: 1 events per day	
Other conditions affecting c	-
Additional conditions human Covers skin contact area up to 428	
3.2. CS2: Consumer Contribut	ing Scenario: Consumer (PC3)
Product Categories	Air care products (PC3)
Product (article) character	istics
Physical form of product: Liquid Concentration of substance in	product
Covers concentrations up to 50 %	- 6
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 0.5 g	
Frequency: Use frequency 365 days per year	
Frequency: 1 events per day	
Other conditions affecting c	•
Additional conditions human Covers skin contact area up to 37.	
3.2. CS3: Consumer Contribut	ing Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (article) character	istics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 50 %	•
Amount used, frequency and	d duration of use/exposure

Amounts used: Amount per use 0.5 g	
Frequency: Use frequency 365 days per y	rear
Frequency: 1 events per day	
Other conditions affecting	g consumers exposure
Room size: Covers use in a one of	car garage (>34 m ³) under typical ventilation.
3.2. CS4: Consumer Contrib	outing Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (article) charact	reristics
Physical form of product: Liquid	
Concentration of substance Covers concentrations up to 5	•
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per y	ear
Frequency: 1 events per day	
Other conditions affecting	g consumers exposure
Additional conditions huma Covers skin contact area up to	
	outing Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (article) charact	eristics
Physical form of product: Liquid	
Concentration of substance Covers concentrations up to 5	
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per y	rear
Frequency: 1 events per day	
Other conditions affecting	
Additional conditions huma Covers skin contact area up to	
	outing Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
Product (article) charact	eristics
Physical form of product:	
Liquid	

Concentration of substan Covers concentrations up to	•
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per	year
Frequency: 1 events per day	
Other conditions affecti	
Additional conditions hun Covers skin contact area up t	
3.2. CS7: Consumer Contr	ibuting Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
Product (article) charad	cteristics
Physical form of product: Liquid	
Concentration of substan Covers concentrations up to	•
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per	year
Frequency: 1 events per day	
Other conditions affecti	ng consumers exposure
Additional conditions hun Covers skin contact area up t	
3.2. CS8: Consumer Contr	ibuting Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
Product (article) charad	cteristics
Physical form of product: Liquid	
Concentration of substan Covers concentrations up to	
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per	year
Frequency: 1 events per day	
Other conditions affecti	ng consumers exposure
Additional conditions hun Covers skin contact area up t	
3.2. CS9: Consumer Contr	ibuting Scenario: Consumer (PC9a)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)
Product (article) charac	cteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 27 g

Frequency:

Use frequency 4 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 428.75 cm²

3.2. CS10: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories

Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 74 g

Frequency:

Use frequency 6 days per year

Frequency:

1 events per day

Product Categories

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 428.75 cm²

3.2. CS11: Consumer Contributing Scenario: Consumer (PC9a)

Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 215 g

Frequency:

Use frequency 2 days per year

Frequency: 1 events per day	
Other conditions affecting c	onsumers exposure
Room size: Covers use in a one car g	arage (>34 m ³) under typical ventilation.
3.2. CS12: Consumer Contribut	ting Scenario: Consumer (PC9a)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)
Product (article) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 50 %	-
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 49 g	
Frequency: Use frequency 3 days per year	
Frequency: 1 events per day	
Other conditions affecting c	onsumers exposure
Additional conditions human l Covers skin contact area up to 857	
3.2. CS13: Consumer Contribut	ting Scenario: Consumer (PC9b)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b)
Product (article) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 20 %	
Amount used, frequency and	l duration of use/exposure
Amounts used: Amount per use 85 g	
Frequency: Use frequency 12 days per year	
Frequency: 1 events per day	
Other conditions affecting c	-
Additional conditions human l Covers skin contact area up to 37.	
	ting Scenario: Consumer (PC9b)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b)
Product (article) characteri	stics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 2 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 13 g

Frequency:

Use frequency 12 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 37.5 cm²

3.2. CS15: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories

Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Frequency:

Use frequency 365 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 254.5 cm²

3.2. CS16: Consumer Contributing Scenario: Consumer

Product (Sub-)Categories Finger paints (PC9c)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Frequency:

Use frequency 365 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 254.5 cm²

Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers percentage substance in the prod Amount used, frequency and durce Amounts used: Amount per use 2 g Frequency: Levents per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount used frequency and durce Amount used frequency and durce Covers concentrations up to 20 % Amount used frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Physical form of product: Liquid Concentration of substance in product Covers percentage substance in the product Amount used, frequency and durce Amounts used: Amount per use 2 g Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and durce Amount used frequency and durce Amount used frequency and durce Covers concentrations up to 20 % Amount used frequency and durce Amount used frequency and durce Covers concentrations up to 20 % Concentration of substance in product Covers concentrations up to 20 % Covers conce	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Concentration of substance in produce overs percentage substance in the product amount used, frequency and durat Amounts used: Amounts used: Amount per use 2 g Frequency: Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produc Covers concentrations up to 20 % Amount used, frequency and durat Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Amount used, frequency and durd Amounts used: Amount per use 2 g Frequency: 1 events per day Other conditions affecting consur Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and durd Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Amounts used: Amount per use 2 g Frequency: Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	ners exposure cenario: Consumer (PC24) icants, greases, release products (PC24)
Frequency: Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consurt Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and duro Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amount used frequency and durce Amount used frequency and set and the set an	cenario: Consumer (PC24) icants, greases, release products (PC24)
Other conditions affecting consurt Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Set Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product covers concentrations up to 20 % Amount used, frequency and durce Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in production Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and duro Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and durce Amount sused: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in production Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cants, greases, release products (PC24)
Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	
Physical form of product: Liquid Concentration of substance in produce Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	- •
Liquid Concentration of substance in produce Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	- •
Amount used, frequency and durd Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	
Frequency: Use frequency 10 days per year Frequency:	
Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	ation of use/exposure
Use frequency 10 days per year Frequency:	
1 events per day	
Other conditions affecting consum	MORE OVIDOGUNO
Additional conditions human health	-
Covers skin contact area up to 468 cm ²	
3.2. CS19: Consumer Contributing So	cenario: Consumer (PC24)
Product Categories Lubri	cants, greases, release products (PC24)
Product (article) characteristics	
Physical form of product: Liquid	
Amount used, frequency and durc	

Frequency: Use frequency 6 days per year			
1 events per day			
Other conditions affecting consumers exposure			
Additional conditions human health			
Covers skin contact area up to 428.75 cm ²			
3.2. CS20: Consumer Contributing Scenario: Consumer (PC35)			
Product CategoriesWashing and cleaning products (PC35)			
Product (article) characteristics			
Physical form of product: Liquid			
Amount used, frequency and duration of use/exposure			
Frequency: Use frequency 6 days per year			
Fraguancy			
Frequency: 1 events per day			
Other conditions affecting consumers exposure			
Additional conditions human health Covers skin contact area up to 857.5 cm ²			
3.2. CS21: Consumer Contributing Scenario: Consumer (PC35)			
Product Categories Washing and cleaning products (PC35)			
Product (article) characteristics			
Physical form of product: Liquid			
Amount used, frequency and duration of use/exposure			
Frequency: Use frequency 128 days per year			
Frequency:			
1 events per day			
Other conditions affecting consumers exposure			
Additional conditions human health Covers skin contact area up to 857.5 cm ²			
3.2. CS22: Consumer Contributing Scenario: Consumer (PC35)			
Product CategoriesWashing and cleaning products (PC35)			
Product (article) characteristics			
Physical form of product: Liquid			
Amount used, frequency and duration of use/exposure			
Frequency: Use frequency 128 days per year			
Frequency: 1 events per day			
Other conditions affecting consumers exposure			

Additional conditions hur Covers skin contact area up		
3.2. CS23: Consumer Con	tributing Scenario: Consumer (PC35)	
Product Categories	Washing and cleaning products (PC35)	
Product (article) characteristics		
Physical form of product: Liquid		
Amount used, frequency	y and duration of use/exposure	
Amounts used: Amount per use 12 g		
Frequency: Use frequency 365 days pe	r year	
Frequency: 1 events per day		
Other conditions affecti	ng consumers exposure	

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

3.3 Exposure estimation and reference to its source

3.2. CS1: Consumer Contributing Scenario: Consumer (PC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.1 mg/m³	N/A	0.001
dermal, systemic, long-term	142.67 mg/kg bw/day	N/A	0.447
combined routes, systemic, long-term	N/A	N/A	0.448

3.2. CS2: Consumer Contributing Scenario: Consumer (PC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.83 mg/m ³	N/A	0.009
dermal, systemic, long-term	N/A	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.009

3.2. CS3: Consumer Contributing Scenario: Consumer (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.01 mg/m ³	N/A	0
dermal, systemic, long-term	N/A	N/A	0
combined routes, systemic, long-term	N/A	N/A	0

3.2. CS4: Consumer Contributing Scenario: Consumer (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.04 mg/m³	N/A	0.102
dermal, systemic, long-term	35.67 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.214

3.2. CS5: Consumer Contributing Scenario: Consumer (PC4)

ure level Calculation method	Risk Characterization Ratio (RCR)
ng/m³ N/A	0.006
mg/kg bw/day N/A	0.056
N/A	0.177
	mg/kg bw/day N/A

3.2. CS6: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	6.75 mg/m³	N/A	0.076
dermal, systemic, long-term	0.71 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.078

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	8.42 mg/m³	N/A	0.095
dermal, systemic, long-term	71.46 mg/kg bw/day	N/A	0.224
combined routes, systemic, long-term	N/A	N/A	0.319

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	5.78 mg/m³	N/A	0.065
dermal, systemic, long-term	35.87 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.177

3.2. CS9: Consumer Contributing Scenario: Consumer (PC9a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	38.53 mg/m³	N/A	0.433
dermal, systemic, long-term	0.39 mg/kg bw/day	N/A	0.001
combined routes, systemic, long-term	N/A	N/A	0.434

3.2. CS10: Consumer Contributing Scenario: Consumer (PC9a)

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
15.15 mg/m³	N/A	0.17
0.57 mg/kg bw/day	N/A	0.002
N/A	N/A	0.172
	15.15 mg/m ³ 0.57 mg/kg bw/day	15.15 mg/m³ N/A 0.57 mg/kg bw/day N/A

3.2. CS11: Consumer Contributing Scenario: Consumer (PC9a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	34.29 mg/m ³	N/A	0.385
dermal, systemic, long-term	0 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.385

3.2. CS12: Consumer Contributing Scenario: Consumer (PC9a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	4.9 mg/m³	N/A	0.055
dermal, systemic, long-term	0.59 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.057

3.2. CS13: Consumer Contributing Scenario: Consumer (PC9b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	53.63 mg/m³	N/A	0.603
dermal, systemic, long-term	1.19 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.607

3.2. CS14: Consumer Contributing Scenario: Consumer (PC9b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	22.02 mg/m³	N/A	0.247
dermal, systemic, long-term	0.09 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.247

3.2. CS15: Consumer Contributing Scenario: Consumer (PC9b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
oral, systemic, long-term	20 mg/kg bw/day	N/A	0.769
dermal, systemic, long-term	2.54 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.777

3.2. CS16: Consumer Contributing Scenario: Consumer

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
oral, systemic, long-term	20.25 mg/kg bw/day	N/A	0.779
dermal, systemic, long-term	38.16 mg/kg bw/day	N/A	0.12
combined routes, systemic, long-term	N/A	N/A	0.899

3.2. CS17: Consumer Contributing Scenario: Consumer (PC24)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	3.98 mg/m³	N/A	0.045
dermal, systemic, long-term	78 mg/kg bw/day	N/A	0.245
combined routes, systemic, long-term	N/A	N/A	0.29

3.2. CS18: Consumer Contributing Scenario: Consumer (PC24)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0 mg/m³	N/A	0
dermal, systemic, long-term	15.6 mg/kg bw/day	N/A	0.049
combined routes, systemic, long-term	N/A	N/A	0.049

3.2. CS19: Consumer Contributing Scenario: Consumer (PC24)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	12.06 mg/m ³	N/A	0.136
dermal, systemic, long-term	35.73 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.29

3.2. CS20: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.75 mg/m³	N/A	0.008
dermal, systemic, long-term	0.71 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.01

3.2. CS21: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	8.42 mg/m ³	N/A	0.095
dermal, systemic, long-term	71.46 mg/kg bw/day	N/A	0.224
combined routes, systemic, long-term	N/A	N/A	0.319

3.2. CS22: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	5.78 mg/m ³	N/A	0.065
dermal, systemic, long-term	35.67 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.177

3.2. CS23: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.4 mg/m ³	N/A	0.106
dermal, systemic, long-term	0 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.106

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.