

# Karta charakterystyki Tsunami Bug & Grime Remover



## Karta charakterystyki dla 11/10/2023, przegląd 2

### SEKCJA 1: Identyfikacja substancji/mieszaniny i identyfikacja przedsiębiorstwa

- 1.1. Identyfikator produktu  
Identyfikacja preparatu:  
Nazwa handlowa: Tsunami Bug & Grime Remover  
Kod handlowy: 8090
- 1.2. Istotne zidentyfikowane zastosowania substancji lub mieszaniny oraz zastosowania odradzane  
Użytkowanie zalecane:  
Detergent/czyścik
- 1.3. Dane dotyczące dostawcy karty charakterystyki  
Dostawca:  
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  
Kompetentnej osoby odpowiedzialnej za kartę charakterystyki:  
arexons@arexons.it
- 1.4. Numer telefonu alarmowego  
Arexons S.p.A.  
Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306  
Ośrodek Toksykologiczny:  
112  
999  
998

### SEKCJA 2: Identyfikacja zagrożeń

- 2.1. Klasyfikacja substancji lub mieszaniny  
Kryteria Rozporządzenia WE 1272/2008 (CLP):  
Produkt nie jest uważany za niebezpieczny zgodnie z Rozporządzeniem WE 1272/2008 (CLP).  
Niekorzystne efekty dla fizykochemicznego zdrowia człowieka oraz dla środowiska:  
Brak innych zagrożeń
- 2.2. Elementy oznakowania  
Produkt nie jest uważany za niebezpieczny zgodnie z Rozporządzeniem WE 1272/2008 (CLP).  
Piktogramy wskazujące rodzaj zagrożenia:  
Żadna  
Zwroty wskazujące rodzaj zagrożenia:  
Żadna  
Zwroty wskazujące środki ostrożności:  
Żadna  
Polecenia specjalne:  
Żadna  
Specjalne postanowienia zgodna z Załącznikiem XVII Rozporządzenia REACH i kolejnymi nowelizacjami:  
Żadna
- Rozporządzenie (WE) nr 648/2004 (detergentów).  
Zawartość produktu:  
Kationowe środki powierzchniowo czynne, Fosforany, < 5 %  
niejonowe środki powierzchniowo czynne  
Zawiera również: Kompozycje zapachowe



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### 2.3. Inne zagrożenia

Brak PBT, vPvB lub substancji niszczących hormony obecnych w stężeniu > = 0,1%.

Inne zagrożenia:

Brak innych zagrożeń

## SEKCJA 3: Skład/informacja o składnikach

### 3.1. Substancje

N.A.

### 3.2. Mieszanki

Składniki niebezpieczne według Rozporządzenia CLP oraz odpowiedniej klasyfikacji:

>= 3% - < 5%	etanol	CAS: 64-17-5 EC: 200-578-6 REACH No.: 01-2119457610-43	⚠ 2.6/2 Flam. Liq. 2 H225 ⚠ 3.3/2 Eye Irrit. 2 H319 Specyficzne stężenia graniczne: C >= 50%: Eye Irrit. 2 H319
>= 3% - < 5%	Ethyl 4-oxopentanoate	CAS: 539-88-8 EC: 208-728-2 REACH No.: 01-2120765759-33	⚠ 3.2/2 Skin Irrit. 2 H315 ⚠ 3.3/2 Eye Irrit. 2 H319
>= 2% - < 3%	tetrapotassium pyrophosphate	CAS: 7320-34-5 EC: 230-785-7 REACH No.: 01-2119489369-18	⚠ 3.3/2 Eye Irrit. 2 H319
>= 1% - < 2%	C9 -C11 alcohol ethoxylate	CAS: 68439-46-3	⚠ 3.3/2 Eye Irrit. 2 H319

## SEKCJA 4: Środki pierwszej pomocy

### 4.1. Opis środków pierwszej pomocy

W przypadku kontaktu ze skórą:

Umyć obficie wodą i mydłem.

W przypadku kontaktu z oczami:

Zanieczyszczone oczy przemyć natychmiast dużą ilością wody i zasięgnąć porady lekarza.

W przypadku Połknięcia:

Absolutnie nie wywoływać wymiotów. NATYCHMIAST DOKONAĆ BADANIA LEKARSKIEGO.

W przypadku Wdychania:

Wyprowadzić ofiary na świeże powietrze, zapewnić im ciepło i odpoczynek.

### 4.2. Najważniejsze ostre i opóźnione objawy oraz skutki narażenia

Żaden

### 4.3. Wskazania dotyczące wszelkiej natychmiastowej pomocy lekarskiej i szczególnego postępowania z poszkodowanym

Leczenie:

Żaden

## SEKCJA 5: Postępowanie w przypadku pożaru

### 5.1. Środki gaśnicze

Odpowiednie środki gaśnicze:

Śniegowa.

Proszkowa.

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piana

Mgła wodna

Środki gaśnicze niezalecane:

Nie używać bezpośrednich strumieni wody.

### 5.2. Szczególne zagrożenia związane z substancją lub mieszaniną

Nie wdychać gazów wybuchowych i palnych.

Palenie powoduje ciężki dym.

### 5.3. Informacje dla straży pożarnej

Zastosować odpowiedni inhalator.

Gromadzić oddzielnie skażoną wodę pochodzącą z gaszenia pożaru. Nie wolno odprowadzać jej do kanalizacji.

Usunąć ze strefy bezpośredniego zagrożenia nieuszkodzone pojemniki, jeżeli jest to możliwe ze względów bezpieczeństwa.

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## SEKCJA 6: Postępowanie w przypadku niezamierzonego uwolnienia do środowiska

### 6.1. Indywidualne środki ostrożności, wyposażenie ochronne i procedury w sytuacjach awaryjnych

Nałożyć środki ochrony osobistej.

Wyprowadzić osoby w bezpieczne miejsce.

Patrz środki ochronne w punkcie 7 i 8.

### 6.2. Środki ostrożności w zakresie ochrony środowiska

Uniemożliwić przedostanie się do gruntu i przygruntu. Uniemożliwić przedostanie się do wód powierzchniowych lub kanalizacji.

Zatrzymać skażoną wodę z mycia i usunąć ją.

W przypadku ucieczki gazu do dróg wodnych, gruntu lub kanalizacji należy poinformować o tym odpowiednie władze.

Materiały odpowiednie do pochłaniania: materiały wchłaniające, materiały organiczne, piasek

### 6.3. Metody i materiały zapobiegające rozprzestrzenianiu się skażenia i służące do usuwania skażenia

Umyć przy użyciu dużej ilości wody.

### 6.4. Odniesienia do innych sekcji

Patrz również rozdział 8 i 13

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## SEKCJA 7: Postępowanie z substancjami i mieszaninami oraz ich magazynowanie

### 7.1. Środki ostrożności dotyczące bezpiecznego postępowania

Unikać kontaktu ze skórą i oczami, wdychania oparów i mgieł.

W zakresie zalecanego wyposażenia ochronnego patrz również rozdział 8.

Podczas pracy nie jeść ani nie pić.

### 7.2. Warunki bezpiecznego magazynowania, w tym informacje dotyczące wszelkich wzajemnych niezgodności

Przechowywać z dala od żywności, napojów i paszy.

Żaden w szczególności.

Wskazówka dla pomieszczeń:

Pomieszczenia odpowiednio przewietrzane.

### 7.3. Szczególne zastosowanie(-a) końcowe

Brak

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## SEKCJA 8: Kontrola narażenia/środki ochrony indywidualnej

### 8.1. Parametry dotyczące kontroli

etanol - CAS: 64-17-5

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

### Wartości graniczne narażenia DNEL

etanol - CAS: 64-17-5

Pracownik wykwalifikowany: 1900 mg/m<sup>3</sup> - Narażenie: przez wdychanie u człowieka -

Częstotliwość: Okres krótki (ostre)

Pracownik wykwalifikowany: 950 mg/m<sup>3</sup> - Narażenie: przez wdychanie u człowieka -

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Częstotliwość: Okres długi, skutki systemowe  
Pracownik wykwalifikowany: 343 mg/kg - Narażenie: przez skórę u człowieka -  
Częstotliwość: Okres długi, skutki systemowe  
tetrapotassium pyrophosphate - CAS: 7320-34-5  
Pracownik wykwalifikowany: 17.63 mg/m<sup>3</sup> - Konsument: 4.35 - Narażenie: przez  
wdychanie u człowieka - Częstotliwość: Okres długi, skutki systemowe

Wartości graniczne narażenia PNEC  
etanol - CAS: 64-17-5  
Cel: Słodka woda - Wartość: 0.96 mg/l  
Cel: Woda morska - Wartość: 0.79 mg/l  
Cel: Słodka woda osady - Wartość: 3.6 mg/kg  
Cel: Woda morska osady - Wartość: 2.9 mg/kg  
Cel: 09 - Wartość: 580 mg/l  
tetrapotassium pyrophosphate - CAS: 7320-34-5  
Cel: 09 - Wartość: 50 mg/l  
Cel: Słodka woda - Wartość: 0.05 mg/l  
Cel: Woda morska - Wartość: 0.005 mg/l

### 8.2. Kontrola narażenia

Ochrona oczu:

Okulary ochronne

Zgodny z EN 166

Ochrona skóry:

Nie wymaga specjalnych środków ostrożności przy normalnym użytkowaniu.

Ochrona rąk:

Rękawice nitrylowe lub z tworzywa Viton.

Zgodne z EN 374.

Ochrona dróg oddechowych:

Nie konieczna przy normalnym użytkowaniu.

Zagrożenia termiczne:

Żaden

Kontrola ekspozycji środowiska:

Żaden

Odpowiednie zabezpieczenia techniczne:

Żaden

## SEKCJA 9: Właściwości fizyczne i chemiczne

9.1. Informacje na temat podstawowych właściwości fizycznych i chemicznych

Właściwości	Wartość	Metoda:	Uwagi
Stan skupienia:	Płyn	--	--
Kolor:	Niebieski	--	--
Zapach:	N.A.	--	--
Temperatura topnienia/ krzepnięcia:	N.A.	--	--
Temperatura wrzenia lub początkowa temperatura wrzenia i zakres temperatur wrzenia:	N.A.	--	--
Palność materiałów:	N.A.	--	--
Dolna i górna granica	N.A.	--	--

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wybuchowości:			
Temperatura zapalania:	44,5°C	10	--
Temperatura samozapalenia:	N.A.	--	--
Temperatura rozkładu:	N.A.	--	--
pH:	10.5	--	--
Lepkość kinematyczna:	N.A.	--	--
Rozpuszczalność w wodzie:	N.A.	--	--
Rozpuszczalność w oleju:	N.A.	--	--
Współczynnik podziału n-oktanol/woda (wartość współczynnika log):	N.A.	--	--
Ciśnienie pary:	N.A.	--	--
Gęstość lub gęstość względna:	0,995	--	--
Względna gęstość pary:	N.A.	--	--
Charakterystyka cząsteczek:			
Wielkość cząstek:	N.A.	--	--

9.2. Inne informacje  
Brak innych istotnych informacji

### SEKCJA 10: Stabilność i reaktywność

- 10.1. Reaktywność  
Stabilny w warunkach normalnych
- 10.2. Stabilność chemiczna  
Stabilny w warunkach normalnych
- 10.3. Możliwość występowania niebezpiecznych reakcji  
Żaden
- 10.4. Warunki, których należy unikać  
Stabilne w normalnych warunkach.
- 10.5. Materiały niezgodne  
Nic szczególnego.
- 10.6. Niebezpieczne produkty rozkładu  
Żadne.

### SEKCJA 11: Informacje toksykologiczne

- 11.1. Informacje na temat klas zagrożenia zdefiniowanych w rozporządzeniu (WE) nr 1272/2008  
Informacje toksykologiczne produktu:  
Tsunami Resin & Bug Remover 500 ml  
a) toksyczność ostra  
Nie klasyfikowany

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- W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- b) działanie żrące/drażniące na skórę  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - c) poważne uszkodzenie oczu/działanie drażniące na oczy  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - d) działanie uczulające na drogi oddechowe lub skórę  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - e) działanie mutagenne na komórki rozrodcze  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - f) rakotwórczość  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - g) szkodliwe działanie na rozrodczość  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - h) działanie toksyczne na narządy docelowe - narażenie jednorazowe  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - i) działanie toksyczne na narządy docelowe - narażenie powtarzane  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
  - j) zagrożenie spowodowane aspiracją  
Nie klasyfikowany  
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- Informacje toksykologiczne głównych substancji zawartych w produkcie:
- etanol - CAS: 64-17-5
  - d) działanie uczulające na drogi oddechowe lub skórę:  
Badanie: Uczulenie Skóry - Drogi przenikania: Skóra Ujemny
  - e) działanie mutagenne na komórki rozrodcze:  
Badanie: Genotoksyczność - Rodzaje: vitro Ujemny
  - f) rakotwórczość:  
Badanie: Karcynogeneza - Rodzaje: mam Dodatni
  - g) szkodliwe działanie na rozrodczość:  
Badanie: NOAEL - Drogi przenikania: Wdychanie - Rodzaje: Szczur = 1600 ppm
  - tetrapotassium pyrophosphate - CAS: 7320-34-5
  - a) toksyczność ostra:  
Badanie: LC50 - Drogi przenikania: Wdychanie - Rodzaje: Szczur > 1.1 mg/l - Czas trwania: 4h  
Badanie: LD50 - Drogi przenikania: Ustny - Rodzaje: Szczur > 2000 mg/kg  
Badanie: LD50 - Drogi przenikania: Skóra - Rodzaje: Królik > 2000 mg/kg
  - C9 -C11 alcohol ethoxylate - CAS: 68439-46-3
  - a) toksyczność ostra:  
Badanie: LD50 - Drogi przenikania: Ustny - Rodzaje: Szczur > 2000 mg/kg
- 11.2. Informacje o innych zagrożeniach  
Właściwości zaburzające funkcjonowanie układu hormonalnego:  
Brak substancji niszczących hormony obecnych w stężeniu  $\geq 0,1\%$

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### SEKCJA 12: Informacje ekologiczne

#### 12.1. Toksyczność

Stosować według prawidłowych praktyk roboczych, unikając rozpraszania produktu w środowisku.

etanol - CAS: 64-17-5

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- a) Toksyczność ostra dla środowiska wodnego:
  - Punkt końcowy: LC50 - Rodzaje: Ryba 14.2 GL - Czas h: 96
  - Punkt końcowy: LC50 - Rodzaje: Dafnia 29.6 GL - Czas h: 24
  - Punkt końcowy: EC50 - Rodzaje: Glon 19000 mg/l - Czas h: 96
  - Punkt końcowy: EC50 - Rodzaje: batteri 39.5 GL - Czas h: 4
- b) Toksyczność przewlekła dla środowiska wodnego:
  - Punkt końcowy: EC50 - Rodzaje: Ryba 14536 mg/l - Czas h: 200
  - Punkt końcowy: LC50 - Rodzaje: Dafnia 9248 mg/l - Czas h: 48
- tetrapotassium pyrophosphate - CAS: 7320-34-5
- a) Toksyczność ostra dla środowiska wodnego:
  - Punkt końcowy: LC50 - Rodzaje: Ryba > 100 mg/l - Czas h: 96
  - Punkt końcowy: EC50 - Rodzaje: Glon > 100 mg/l - Czas h: 72
  - Punkt końcowy: LC50 - Rodzaje: Dafnia > 100 mg/l - Czas h: 48
  - Punkt końcowy: EC50 - Rodzaje: fanghi 1 GL - Czas h: 3
- C9 -C11 alcohol ethoxylate - CAS: 68439-46-3
- a) Toksyczność ostra dla środowiska wodnego:
  - Punkt końcowy: LC50 - Rodzaje: Ryba 1-10 mg/l - Czas h: 96
  - Punkt końcowy: EC50 - Rodzaje: Dafnia 1-10 mg/l - Czas h: 48
  - Punkt końcowy: EC50 - Rodzaje: Glon 1-10 mg/l - Czas h: 72
- 12.2. Trwałość i zdolność do rozkładu  
Żaden  
N.A.
- 12.3. Zdolność do bioakumulacji  
N.A.
- 12.4. Mobilność w glebie  
N.A.
- 12.5. Wyniki oceny właściwości PBT i vPvB  
Substancje vPvB: Żadna - Substancje PBT: Żadna
- 12.6. Właściwości zaburzające funkcjonowanie układu hormonalnego  
Brak substancji niszczących hormony obecnych w stężeniu  $\geq 0,1\%$
- 12.7. Inne szkodliwe skutki działania  
Żaden

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### SEKCJA 13: Postępowanie z odpadami

- 13.1. Metody unieszkodliwiania odpadów  
Odzyskiwać jeśli to możliwe. Działać według obowiązujących przepisów lokalnych i krajowych.

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### SEKCJA 14: Informacje dotyczące transportu

- 14.1. Numer UN lub numer identyfikacyjny ID  
Towar nie jest zaliczany do niebezpiecznych zgodnie z normami o transporcie.
- 14.2. Prawidłowa nazwa przewozowa UN  
N.A.
- 14.3. Klasa(-y) zagrożenia w transporcie  
N.A.
- 14.4. Grupa pakowania  
N.A.
- 14.5. Zagrożenia dla środowiska  
ADR-Substancja Zanieczyszczająca Środowisko: Nie  
IMDG-Marine pollutant: No
- 14.6. Szczególne środki ostrożności dla użytkowników  
N.A.
- 14.7. Transport morski luzem zgodnie z instrumentami IMO  
N.A.

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### SEKCJA 15: Informacje dotyczące przepisów prawnych

15.1. Przepisy prawne dotyczące bezpieczeństwa, zdrowia i ochrony środowiska specyficzne dla substancji lub mieszaniny

Dyr. 98/24/WE (Zagrożenia związane ze środkami chemicznymi w miejscu pracy)

Dyr. 2000/39/WE (Wykaz wskaźnikowych wartości narażenia zawodowego)

Rozporządzenie (WE) n. 1907/2006 (REACH)

Rozporządzenie (WE) n. 1272/2008 (CLP)

Rozporządzenie (WE) n. 790/2009 (ATP 1 CLP) i (EU) n. 758/2013

Rozporządzenie (EU) n. 2020/878

Rozporządzenie (EU) n. 286/2011 (ATP 2 CLP)

Rozporządzenie (EU) n. 618/2012 (ATP 3 CLP)

Rozporządzenie (EU) n. 487/2013 (ATP 4 CLP)

Rozporządzenie (EU) n. 944/2013 (ATP 5 CLP)

Rozporządzenie (EU) n. 605/2014 (ATP 6 CLP)

Rozporządzenie (EU) n. 2015/1221 (ATP 7 CLP)

Rozporządzenie (EU) n. 2016/918 (ATP 8 CLP)

Rozporządzenie (EU) n. 2016/1179 (ATP 9 CLP)

Rozporządzenie (EU) n. 2017/776 (ATP 10 CLP)

Rozporządzenie (EU) n. 2018/669 (ATP 11 CLP)

Rozporządzenie (EU) n. 2018/1480 (ATP 13 CLP)

Rozporządzenie (EU) n. 2019/521 (ATP 12 CLP)

Rozporządzenie (EU) n. 2020/217 (ATP 14 CLP)

Rozporządzenie (EU) n. 2020/1182 (ATP 15 CLP)

Rozporządzenie (EU) n. 2021/643 (ATP 16 CLP)

Rozporządzenie (EU) n. 2021/849 (ATP 17 CLP)

Rozporządzenie (EU) n. 2022/692 (ATP 18 CLP)

Ograniczenia dotyczące produktu lub zawartej w nim substancji, zgodnie z Załącznikiem XVII

Rozporządzenia (WE) 1907/2006 (REACH) i kolejnych zmian:

Ograniczenia dotyczące produktu:

Bez ograniczeń.

Ograniczenia dotyczące zawartych substancji:

Ograniczenie 40

Ograniczenie 75

Lotne Związki Organiczne - VOC = 8.32 %

Lotne Związki Organiczne - VOC = 83.22 g/Kg

Lotne Związki Organiczne - VOC = 82.39 g/l

Tam gdzie zastosowywalne należy odnieść się do następujących norm:

Dyrektywą 2012/18/UE (Seveso III)

Rozporządzenie (WE) nr 648/2004 (detergentów).

Dyr. 2004/42/WE w sprawie ograniczenia emisji lotnych związków organicznych

Produkt należy do kategorii: P5c

15.2. Ocena bezpieczeństwa chemicznego

Nie została przeprowadzona Ocena bezpieczeństwa chemicznego dla mieszaniny

Substancje, dla których została przeprowadzona Ocena bezpieczeństwa chemicznego

etanol

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### SEKCJA 16: Inne informacje

Zwroty użyte w rozdziale 3:

H225 Wysoce łatwopalna ciecz i pary.

H319 Działa drażniąco na oczy.

H315 Działa drażniąco na skórę.



## Karta charakterystyki Tsunami Bug & Grime Remover



Klasa i kategoria zagrożenia	Kod	Opis
Flam. Liq. 2	2.6/2	Substancja ciekła łatwopalna, Kategoria 2
Skin Irrit. 2	3.2/2	Działanie drażniące na skórę, Kategoria 2
Eye Irrit. 2	3.3/2	Działanie drażniące na oczy, Kategoria 2

Paragrafy zmodyfikowane przez poprzedni przegląd:

- SEKCJA 2: Identyfikacja zagrożeń
- SEKCJA 3: Skład/informacja o składnikach
- SEKCJA 8: Kontrola narażenia/środki ochrony indywidualnej
- SEKCJA 11: Informacje toksykologiczne
- SEKCJA 12: Informacje ekologiczne
- SEKCJA 15: Informacje dotyczące przepisów prawnych
- SEKCJA 16: Inne informacje

Niniejszy dokument został przygotowany przez kompetentną osobę, która otrzymała odpowiednie przeszkolenie

Główne źródła bibliograficzne:

- ECDIN - Dane chemiczne dotyczące warunków środowiskowych i Sieć Informacyjna - Zrzeszony Ośrodek Badań, Komisja Wspólnoty Europejskiej
- SAX NIEBEZPIECZNE WŁAŚCIWOŚCI MATERIAŁÓW PRZEMYSŁOWYCH - Wydanie ósme - Van Nostrand Reinold

Informacje w nim zawarte opierają się na naszej wiedzy w wyżej wymienionym dniu. Dotyczą wyłącznie wskazanego produktu i nie tworzą gwarancji szczególnych jakości.

Użytkownik powinien upewnić się o przydatności i kompletności tych informacji w związku ze specyficznym użyciem, do jakiego jest on przeznaczony.

Ta tablica anuluje i zastępuje jakąkolwiek poprzednią edycję.

- ADR: Umowa Europejska dotycząca Międzynarodowego Przewozu Drogowego Towarów Niebezpiecznych
- ATE: Ocena toksyczności ostrej
- ATEmix: Oszacowana toksyczność ostra (Mieszaniny)
- CAS: Chemical Abstracts Service (oddział Amerykańskiego Towarzystwa Chemicznego).
- CLP: Klasyfikacja, Oznakowanie i Pakowanie
- DNEL: Pochodny Poziom Niepowodujący Zmian
- EINECS: Europejski Wykaz Istniejących Substancji o Znaczeniu Komercyjnym
- GefStoffVO: Rozporządzenie o Substancjach Niebezpiecznych, Niemcy
- GHS: Globalny Zharmonizowany System Klasyfikacji i Oznakowania Chemikaliów
- IATA: Międzynarodowe Zrzeszenie Przewoźników Powietrznych
- IATA-DGR: Konwencja w sprawie Bezpiecznego Transportu Materiałów "Międzynarodowego Zrzeszenia Przewoźników Powietrznych" (IATA)
- ICAO: Organizacja Międzynarodowego Lotnictwa Cywilnego
- ICAO-TI: Instrukcje Techniczne "Organizacji Międzynarodowego Lotnictwa Cywilnego" (ICAO)
- IMDG: Międzynarodowy Morski Kodeks Towarów Niebezpiecznych
- INCI: Międzynarodowe Nazewnictwo Składników Kosmetycznych
- KSt: Wskaźnik wybuchowości.
- LC50: Stężenie śmiertelne dla 50 procent osobników badanej populacji
- LD50: Dawka śmiertelna dla 50 procent osobników badanej populacji

## Karta charakterystyki Tsunami Bug & Grime Remover



NA:	Nie zastosowywalny
PNEC:	Przewidywane Stężenie Niepowodujące Zmian w Środowisku
RID:	Regulamin Międzynarodowego Przewozu Kolejami Towarów Niebezpiecznych
STEL:	Krótkoterminowa Dopuszczalna Wartość Narażenia
STOT:	Działanie Toksyczne Na Narządy Docelowe
TLV:	Najwyższa Dopuszczalna Wartość Stężenia
TWA:	Średnia ważona czasu
WGK:	Niemiecka Klasa Zagrożenia Dla Wód

# Exposure Scenario, 23/07/2019

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

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

### 1.1 TITLE SECTION

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

### Environment Contributing Scenario

CS1 Covered by	ERC8d
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### Consumer Contributing Scenario

CS2 Car Care - De-icing and anti-icing applications	PC4 - PC4_1
CS3 Car Care - De-icing and anti-icing applications	PC4 - PC4_2
CS4 Car Care - De-icing and anti-icing applications	PC4 - PC4_3

## 1.2 Conditions of use affecting exposure

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

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

**Physical form of product:**

Liquid

**Vapour pressure:**

5726 Pa

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

**Waste treatment**

No specific measures identified.

#### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

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

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

#### *Product (article) characteristics*

**Concentration of substance in product:**

Covers percentage substance in the product up to 1 %.

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

**Amounts used:**

Amount per use 0.5 g

**Duration:**

Covers use up to 0.017 h/event

**Frequency:**

Covers use up to 1 uses per day

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in a one car garage (>34 m<sup>3</sup>) under typical ventilation.

**Temperature:** Covers use at ambient temperatures.

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

<b>Product Categories</b>	Anti-freeze and de-icing products (PC4)
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<b>Product (Sub-)Categories</b>	Pouring into radiator (PC4_2)
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### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 10 %

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

**Amounts used:**

Amount per use 2000 g

**Duration:**

Covers use up to 0.17 h/event

**Frequency:**

Covers use up to 1 uses per day

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in a one car garage (>34 m<sup>3</sup>) under typical ventilation.

**Temperature:** Covers use at ambient temperatures.

**Additional conditions human health**

Covers skin contact area up to 482 cm<sup>2</sup>

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

<b>Product Categories</b>	Anti-freeze and de-icing products (PC4)
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<b>Product (Sub-)Categories</b>	Lock de-icer (PC4_3)
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### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 50 %

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

**Amounts used:**

Amount per use 4 g

**Duration:**

Covers use up to 0.25 h/event

**Frequency:**

Covers use up to 1 uses per day

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in a one car garage (>34 m<sup>3</sup>) under typical ventilation.

**Temperature:** Covers use at ambient temperatures.

**Additional conditions human health**

Covers skin contact area up to 214 cm<sup>2</sup>

## 1.3 Exposure estimation and reference to its source

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

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

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.000102 mg/m <sup>3</sup>	N/A	8.94E-07
inhalative, local, short-term	0.000102 mg/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.0161
inhalative, local, short-term	1.84 mg/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.00447
inhalative, local, short-term	0.51 mg/m <sup>3</sup>	N/A	0.0447
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.0679
combined routes, systemic, long-term	N/A	N/A	0.0724

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

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

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

## 2. ES 2 Consumer use; Various products (PC39, PC28)

### 2.1 TITLE SECTION

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

#### Environment Contributing Scenario

CS1 Covered by	ERC8a
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#### Consumer Contributing Scenario

CS2 Consumer	PC39 - PC28
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## 2.2 Conditions of use affecting exposure

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

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)
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#### *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)
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## 2.3 Exposure estimation and reference to its source

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

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



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

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

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

### 3. ES 3 Use at industrial site

#### 3.1 TITLE SECTION

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

#### Environment Contributing Scenario

CS1 Covered by	ERC4
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#### Worker Contributing Scenario

CS2 Industrial	PROC1
CS3 Industrial	PROC2
CS4 Industrial	PROC3
CS5 Industrial	PROC4
CS6 Industrial	PROC5
CS7 Industrial	PROC7
CS8 Industrial	PROC8a
CS9 Industrial	PROC8b
CS10 Industrial	PROC10
CS11 Industrial	PROC13
CS12 Industrial	PROC15

### 3.2 Conditions of use affecting exposure

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

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

**Vapour pressure:**  
< 10 kPa

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

**Amounts used:**

Annual site tonnage 3000 t(tonnes)/year

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

**Release type:** Continuous release

**Emission days:** 300 days per year

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

**Control measures to prevent releases**

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

### *Conditions and measures related to sewage treatment plant*

#### **STP type:**

Municipal Sewage Treatment Plant

**STP effluent (m<sup>3</sup>/day):** 2000

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

#### **Waste treatment**

Incineration, disposal or recycling at specific offsite provider Contain and dispose of waste according to local regulations.	Waste - minimum efficiency of: 99.98 %
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### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 2000 m<sup>3</sup>/h

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

#### **Additional Good Practice Advice:**

Contain leaks or spills within cabinets with removable trays.

### **3.2. CS2: Worker Contributing Scenario: Industrial (PROC1)**

<b>Process Categories</b>	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)
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### *Product (article) characteristics*

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

Liquid

#### **Vapour pressure:**

< 10 kPa

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

Covers percentage substance in the product up to 100 %.

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

#### **Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

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

Use in contained systems

Store substance within a closed system.

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

#### **Personal protection**

Use suitable eye protection.

### *Other conditions affecting worker exposure*

**Temperature:** Covers use at ambient temperatures.

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

<b>Process Categories</b>	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)
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### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

**Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

Use in contained systems

Store substance within a closed system.

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

**Personal protection**

Use suitable eye protection.

### *Other conditions affecting worker exposure*

**Temperature:** Covers use at ambient temperatures.

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

**Process Categories**

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

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

**Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

Use in contained systems

Store substance within a closed system.

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

**Personal protection**

Use suitable eye protection.

### *Other conditions affecting worker exposure*

**Temperature:** Covers use at ambient temperatures.

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

**Process Categories**

Chemical production where opportunity for exposure arises (PROC4)

### *Product (article) characteristics*

<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> < 10 kPa	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
<b>Technical and organisational measures</b> Use in contained systems Store substance within a closed system.	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
<b>Personal protection</b> Use suitable eye protection.	
<i>Other conditions affecting worker exposure</i>	
<b>Temperature:</b> Covers use at ambient temperatures.	
<b>3.2. CS6: Worker Contributing Scenario: Industrial (PROC5)</b>	
<b>Process Categories</b>	Mixing or blending in batch processes (PROC5)
<i>Product (article) characteristics</i>	
<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> < 10 kPa	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
<b>Technical and organisational measures</b> Use in contained systems Store substance within a closed system.	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
<b>Personal protection</b> Use suitable eye protection.	
<i>Other conditions affecting worker exposure</i>	
<b>Temperature:</b> Covers use at ambient temperatures.	
<b>3.2. CS7: Worker Contributing Scenario: Industrial (PROC7)</b>	
<b>Process Categories</b>	Industrial spraying (PROC7)
<i>Product (article) characteristics</i>	
<b>Physical form of product:</b> Liquid	

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Use in contained systems

Store substance within a closed system.

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

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

Use suitable eye protection.

***Other conditions affecting worker exposure***

**Temperature:** Covers use at ambient temperatures.

**3.2. CS8: Worker Contributing Scenario: Industrial (PROC8a)****Process Categories**

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

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

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Use in contained systems

Store substance within a closed system.

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

Use suitable eye protection.

***Other conditions affecting worker exposure***

**Temperature:** Covers use at ambient temperatures.

**3.2. CS9: Worker Contributing Scenario: Industrial (PROC8b)****Process Categories**

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

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

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Use in contained systems

Store substance within a closed system.

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

Use suitable eye protection.

*Other conditions affecting worker exposure*

**Temperature:** Covers use at ambient temperatures.

**3.2. CS10: Worker Contributing Scenario: Industrial (PROC10)****Process Categories**

Roller application or brushing (PROC10)

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

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Use in contained systems

Store substance within a closed system.

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

Use suitable eye protection.

*Other conditions affecting worker exposure*

**Temperature:** Covers use at ambient temperatures.

**3.2. CS11: Worker Contributing Scenario: Industrial (PROC13)****Process Categories**

Treatment of articles by dipping and pouring (PROC13)

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

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Use in contained systems

Store substance within a closed system.

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

Use suitable eye protection.

***Other conditions affecting worker exposure*****Temperature:** Covers use at ambient temperatures.**3.2. CS12: Worker Contributing Scenario: Industrial (PROC15)****Process Categories**

Use as laboratory reagent (PROC15)

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

Liquid

**Vapour pressure:**

&lt; 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Use in contained systems

Store substance within a closed system.

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

Use suitable eye protection.

***Other conditions affecting worker exposure*****Temperature:** Covers use at ambient temperatures.**3.3 Exposure estimation and reference to its source****3.3. CS1: Environment Contributing Scenario: Covered by (ERC4)**

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



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

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.02
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.0222

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
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inhalative, systemic, long-term	38 mg/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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)
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inhalative, systemic, long-term	96 mg/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.01
combined routes, systemic, long-term	N/A	N/A	0.0212

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

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

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

## 4. ES 4 Use at industrial site

### 4.1 TITLE SECTION

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

#### Environment Contributing Scenario

CS1 Covered by	ERC7
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#### Worker Contributing Scenario

CS2 Industrial	PROC1
CS3 Industrial	PROC2
CS4 Industrial	PROC3
CS5 Industrial	PROC8a
CS6 Industrial	PROC8b
CS7 Industrial	PROC15
CS8 Industrial	PROC16

## 4.2 Conditions of use affecting exposure

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

Environmental release categories	Use of functional fluid at industrial site (ERC7)
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#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Vapour pressure:

< 10 kPa

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

##### Amounts used:

Annual site tonnage 20000 t(tonnes)/year

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

**Release type:** Continuous release

**Emission days:** 300 days per year

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

##### Control measures to prevent releases

Provide onsite wastewater removal efficiency of <sup>3</sup> (%):

Water - minimum efficiency of: 87 %

### *Conditions and measures related to sewage treatment plant*

**STP type:**

Municipal Sewage Treatment Plant  
Water - minimum efficiency of: = 87 %

**STP effluent (m<sup>3</sup>/day):** 2000

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

**Waste treatment**

Product residual disposal complies with applicable regulations.

### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 2000 m<sup>3</sup>/day

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

**Additional Good Practice Advice:**

Adequate closed storage facilities (e.g., bulk storage tanks, intermediate bulk containers, drums) are required.

### **4.2. CS2: Worker Contributing Scenario: Industrial (PROC1)**

**Process Categories**

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

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

**Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

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

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

**Personal protection**

Use suitable eye protection.

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

**Process Categories**

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

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

<b>Duration:</b> Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
<b>Technical and organisational measures</b> Handle substance within a closed system. Store substance within a closed system.	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
<b>Personal protection</b> Use suitable eye protection.	
<b>4.2. CS4: Worker Contributing Scenario: Industrial (PROC3)</b>	
<b>Process Categories</b>	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)
<i>Product (article) characteristics</i>	
<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> < 10 kPa	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
<b>Technical and organisational measures</b> Handle substance within a closed system. Store substance within a closed system.	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
<b>Personal protection</b> Use suitable eye protection.	
<b>4.2. CS5: Worker Contributing Scenario: Industrial (PROC8a)</b>	
<b>Process Categories</b>	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
<i>Product (article) characteristics</i>	
<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> < 10 kPa	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
<b>Technical and organisational measures</b> Handle substance within a closed system. Store substance within a closed system.	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	

**Personal protection**

Use suitable eye protection.

**4.2. CS6: Worker Contributing Scenario: Industrial (PROC8b)****Process Categories**

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

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

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Handle substance within a closed system.

Store substance within a closed system.

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

Use suitable eye protection.

**4.2. CS7: Worker Contributing Scenario: Industrial (PROC15)****Process Categories**

Use as laboratory reagent (PROC15)

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

Liquid

**Vapour pressure:**

< 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Handle substance within a closed system.

Store substance within a closed system.

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

Use suitable eye protection.

**4.2. CS8: Worker Contributing Scenario: Industrial (PROC16)****Process Categories**

Use of fuels (PROC16)

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

Liquid

**Vapour pressure:**

&lt; 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/m <sup>3</sup>	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 <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.101
dermal, systemic, long-term	14 mg/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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
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### 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/m <sup>3</sup>	N/A	0.01
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	0.0111

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

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

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

## 5. ES 5 Widespread use by professional workers

### 5.1 TITLE SECTION

Exposure Scenario name	Solvent
Date - Version	23/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)

#### Environment Contributing Scenario

CS1 Covered by	ERC8a - ERC8d
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#### Worker Contributing Scenario

CS2 General use from professional operators	PROC1
CS3 General use from professional operators	PROC2
CS4 General use from professional operators	PROC3
CS5 General use from professional operators	PROC4
CS6 General use from professional operators	PROC5 - PROC8a
CS7 General use from professional operators	PROC8b
CS8 General use from professional operators	PROC10
CS9 General use from professional operators	PROC11
CS10 General use from professional operators	PROC11
CS11 General use from professional operators	PROC13
CS12 General use from professional operators	PROC19

### 5.2 Conditions of use affecting exposure

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

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
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#### *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(tonnes)/year

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

**Release type:** Continuous release

**Emission days:** 365 days per year

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

## Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):

Air - minimum efficiency of: 90 %

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

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

### Waste treatment

Hazardous waste incineration

Waste - minimum efficiency of: 99.98 %

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

### Process Categories

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

### Product (article) characteristics

#### Physical form of product:

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

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

#### Duration:

Covers daily exposures up to 8 hours

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

#### Personal protection

Use suitable eye protection.

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

### Process Categories

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

### Product (article) characteristics

#### Physical form of product:

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

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

#### Duration:

Covers daily exposures up to 8 hours

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

#### Personal protection

Use suitable eye protection.

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

### Process Categories

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

### Product (article) characteristics

#### Physical form of product:

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

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

#### **Duration:**

Covers daily exposures up to 8 hours

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

#### **Personal protection**

Use suitable eye protection.

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

#### **Process Categories**

Chemical production where opportunity for exposure arises (PROC4)

### *Product (article) characteristics*

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

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

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

Covers percentage substance in the product up to 100 %.

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

#### **Duration:**

Covers daily exposures up to 8 hours

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

#### **Personal protection**

Use suitable eye protection.

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

#### **Process Categories**

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

### *Product (article) characteristics*

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

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

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

Covers percentage substance in the product up to 100 %.

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

#### **Duration:**

Covers daily exposures up to 8 hours

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

#### **Personal protection**

Use suitable eye protection.

## **5.2. CS7: Worker Contributing Scenario: General use from professional operators (PROC8b)**

#### **Process Categories**

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

### *Product (article) characteristics*

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

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

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

Covers percentage substance in the product up to 100 %.

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

#### **Duration:**

Covers daily exposures up to 8 hours

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

**Personal protection**

Use suitable eye protection.

**5.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10)****Process Categories**

Roller application or brushing (PROC10)

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

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Use suitable eye protection.

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

Non industrial spraying (PROC11)

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

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

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

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

Use suitable eye protection.

Wear suitable gloves tested to EN374.

*Other conditions affecting worker exposure*

Indoor use

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

Non industrial spraying (PROC11)

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

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

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

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

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

#### **Personal protection**

Use suitable eye protection.

Wear suitable gloves tested to EN374.

Wear a respirator conforming to EN140.

### *Other conditions affecting worker exposure*

Outdoor use

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

#### **Process Categories**

Treatment of articles by dipping and pouring (PROC13)

### *Product (article) characteristics*

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

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

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

Covers percentage substance in the product up to 100 %.

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

#### **Duration:**

Covers daily exposures up to 8 hours

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

#### **Personal protection**

Use suitable eye protection.

Wear suitable gloves tested to EN374.

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

#### **Process Categories**

Manual activities involving hand contact (PROC19)

### *Product (article) characteristics*

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

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

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

Covers percentage substance in the product up to 100 %.

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

#### **Duration:**

Covers daily exposures up to 8 hours

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

#### **Personal protection**

Use suitable eye protection.

Wear suitable gloves tested to EN374.

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

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

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

soil	0.01 %	N/A
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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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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 <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.202
dermal, systemic, long-term	28 mg/kg bw/day	N/A	0.082
combined routes, systemic, long-term	N/A	N/A	0.284

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

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

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

## 6. ES 6 Widespread use by professional workers

### 6.1 TITLE SECTION

Exposure Scenario name	Fuel
Date - Version	23/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)

#### Environment Contributing Scenario

CS1 Covered by	ERC9a - ERC9b
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#### Worker Contributing Scenario

CS2 General use from professional operators	PROC1
CS3 General use from professional operators	PROC2
CS4 General use from professional operators	PROC3
CS5 General use from professional operators	PROC8a
CS6 General use from professional operators	PROC8b
CS7 General use from professional operators	PROC16

## 6.2 Conditions of use affecting exposure

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

Environmental release categories	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b)
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#### *Product (article) characteristics*

##### Physical form of product:

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

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

##### Amounts used:

Annual site tonnage 1 t(onnes)/year

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

**Release type:** Continuous release

**Emission days:** 365 days per year

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

##### Control measures to prevent releases

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

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

##### Waste treatment

Product residual disposal complies with applicable regulations.

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

Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)
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### *Product (article) characteristics*

**Physical form of product:**

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

Handle substance within a closed system.

Store substance within a closed system.

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

**Personal protection**

Use suitable eye protection.

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

**Process Categories**

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

### *Product (article) characteristics*

**Physical form of product:**

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

Handle substance within a closed system.

Store substance within a closed system.

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

**Personal protection**

Use suitable eye protection.

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

**Process Categories**

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

### *Product (article) characteristics*

**Physical form of product:**

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

Handle substance within a closed system.

Store substance within a closed system.

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

**Personal protection**

Use suitable eye protection.

## **6.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a)**

**Process Categories**

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

### *Product (article) characteristics*

**Physical form of product:**

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

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

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

Use suitable eye protection.

**6.2. CS6: Worker Contributing Scenario: General use from professional operators (PROC8b)****Process Categories**

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

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

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

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

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

Use suitable eye protection.

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

Use of fuels (PROC16)

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

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

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

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

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

Use suitable eye protection.

**6.3 Exposure estimation and reference to its source****6.3. CS1: Environment Contributing Scenario: Covered by (ERC9a, ERC9b)**

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

soil	0 %	N/A
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### 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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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/m <sup>3</sup>	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
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### 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/m <sup>3</sup>	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	0.0212

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

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

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

## 7. ES 7 Consumer use; Fuels (PC13)

### 7.1 TITLE SECTION

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

#### Environment Contributing Scenario

CS1 Covered by	ERC9b
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#### Consumer Contributing Scenario

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

### 7.2 Conditions of use affecting exposure

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

Environmental release categories	Widespread use of functional fluid (outdoor) (ERC9b)
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#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Vapour pressure:

5726 Pa

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

##### Waste treatment

Product residual disposal complies with applicable regulations.

#### *Other conditions affecting environmental exposure*

Local marine water dilution factor: 100

Local freshwater dilution factor: 10

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

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

#### *Product (article) characteristics*

##### Concentration of substance in product:

Covers concentrations up to 85 %

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

##### Amounts used:

Amount per use 37500 g



**Duration:**

Exposure duration 0.05 h/event

**Frequency:**

Covers use up to 51 times per year

*Other conditions affecting consumers exposure*

Outdoor use

**Additional conditions human health**Covers skin contact area up to 210 cm<sup>2</sup>**7.2. CS3: Consumer Contributing Scenario: Consumer (PC13)****Product Categories**

Fuels (PC13)

**Product (Sub-)Categories**

Liquid Scooter Refuelling (PC13\_2)

*Product (article) characteristics***Concentration of substance in product:**

Covers concentrations up to 85 %

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

Amount per use 37500 g

**Duration:**

Exposure duration 0.033 h/event

**Frequency:**

Covers use up to 51 times per year

*Other conditions affecting consumers exposure*

Outdoor use

**Additional conditions human health**Covers skin contact area up to 210 cm<sup>2</sup>**7.2. CS4: Consumer Contributing Scenario: Consumer (PC13)****Product Categories**

Fuels (PC13)

**Product (Sub-)Categories**

Liquid, Garden equipment - Use (PC13\_3)

*Product (article) characteristics***Concentration of substance in product:**

Covers concentrations up to 15 %

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

Amount per use 750 g

**Duration:**

Exposure duration 2 h/event

**Frequency:**

Covers use up to 25 times per year

*Other conditions affecting consumers exposure*

Outdoor use

**Additional conditions human health**Covers skin contact area up to 210 cm<sup>2</sup>**7.2. CS5: Consumer Contributing Scenario: Consumer (PC13)****Product Categories**

Fuels (PC13)

<b>Product (Sub-)Categories</b>	Liquid: Garden equipment - Refuelling (PC13_4)
<b>Product (article) characteristics</b>	
<b>Concentration of substance in product:</b> Covers concentrations up to 85 %	
<b>Amount used, frequency and duration of use/exposure</b>	
<b>Amounts used:</b> Amount per use 750 g	
<b>Duration:</b> Exposure duration 0.05 h/event	
<b>Frequency:</b> Covers use up to 25 times per year	
<b>Other conditions affecting consumers exposure</b>	
<b>Room size:</b> Covers use in a one car garage (>34 m <sup>3</sup> ) under typical ventilation.	
<b>Temperature:</b> Covers use at ambient temperatures.	
<b>Additional conditions human health</b> Covers skin contact area up to 210 cm <sup>2</sup>	

## 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/m <sup>3</sup>	N/A	0.00164
inhalative, local, short-term	1.3 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.000544

inhalative, local, short-term	0.434 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.00067
inhalative, local, short-term	1.09 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.000692
inhalative, local, short-term	1.12 mg/m <sup>3</sup>	N/A	0.00982
dermal, systemic, long-term	0.117 mg/kg bw/day	N/A	3.98E-05
combined routes, systemic, long-term	N/A	N/A	0.00986

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

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

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

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

### 8.1 TITLE SECTION

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

### Environment Contributing Scenario

CS1 Covered by	ERC8a - ERC8d
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### Consumer Contributing Scenario

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

## 8.2 Conditions of use affecting exposure

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

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
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### *Product (article) characteristics*

#### Physical form of product:

Liquid, vapour pressure > 10 kPa at STP

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

## Waste treatment

Hazardous waste incineration

Waste - minimum efficiency of: 99.8 %

### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 2000 m<sup>3</sup>/day

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

**Product Categories** Adhesives, sealants (PC1)

**Product (Sub-)Categories** Glues, hobby use (PC1\_1)

### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 70 %

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

**Amounts used:**

Amount per use 50 g

**Duration:**

Exposure duration 4 h/event

**Frequency:**

Covers exposure up to 1 events per day

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Additional conditions human health**

Covers skin contact area up to 35 cm<sup>2</sup>

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

**Product Categories** Adhesives, sealants (PC1)

**Product (Sub-)Categories** Glue from spray (PC1\_3)

### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 30 %

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

**Amounts used:**

Amount per use 50 g

**Duration:**

Exposure duration 4 h/event

**Frequency:**

Covers exposure up to 6 times per year

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Additional conditions human health**

Covers skin contact area up to 35 cm<sup>2</sup>

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

**Product Categories** Adhesives, sealants (PC1)

<b>Product (Sub-)Categories</b>	Sealants (PC1_4)
<i>Product (article) characteristics</i>	
<b>Concentration of substance in product:</b> Covers concentrations up to 30 %	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Amounts used:</b> Amount per use 50 g	
<b>Duration:</b> Exposure duration 1 h/event	
<b>Frequency:</b> Covers exposure up to 1 events per day	
<i>Other conditions affecting consumers exposure</i>	
<b>Room size:</b> Covers use in room size of 20 m <sup>3</sup>	
<b>Additional conditions human health</b> Covers skin contact area up to 35 cm <sup>2</sup>	
<b>8.2. CS5: Consumer Contributing Scenario: Consumer (PC3)</b>	
<b>Product Categories</b>	Air care products (PC3)
<b>Product (Sub-)Categories</b>	Air care, instant action (aerosol sprays) (PC3_1)
<i>Product (article) characteristics</i>	
<b>Concentration of substance in product:</b> Covers concentrations up to 40 %	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Amounts used:</b> Amount per use 50 g	
<b>Duration:</b> Exposure duration 0.3 h/event	
<b>Frequency:</b> Covers exposure up to 4 events per day	
<i>Other conditions affecting consumers exposure</i>	
<b>Room size:</b> Covers use in room size of 20 m <sup>3</sup>	
<b>Additional conditions human health</b> Covers skin contact area up to 35 cm <sup>2</sup>	
<b>8.2. CS6: Consumer Contributing Scenario: Consumer (PC3)</b>	
<b>Product Categories</b>	Air care products (PC3)
<b>Product (Sub-)Categories</b>	Air care, continuous action (solid and liquid) (PC3_2)
<i>Product (article) characteristics</i>	
<b>Concentration of substance in product:</b> Covers concentrations up to 10 %	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Amounts used:</b> Amount per use 50 g	
<b>Duration:</b> Exposure duration 8 h/event	
<b>Frequency:</b>	

Covers exposure up to 1 events per day

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

### **Additional conditions human health**

Covers skin contact area up to 35 cm<sup>2</sup>

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

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

### *Product (article) characteristics*

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

Covers percentage substance in the product up to 5 %.

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

#### **Amounts used:**

Amount per use 15 g

#### **Duration:**

Exposure duration 0.5 h/event

#### **Frequency:**

Covers exposure up to 1 events per day

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

### **Additional conditions human health**

Covers skin contact area up to 857 cm<sup>2</sup>

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

<b>Product Categories</b>	Biocidal products (PC8)
<b>Product (Sub-)Categories</b>	Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC8_2, PC35_2)

### *Product (article) characteristics*

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

Covers percentage substance in the product up to 5 %.

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

#### **Amounts used:**

Amount per use 50 g

#### **Duration:**

Exposure duration 0.3 h/event

#### **Frequency:**

Covers exposure up to 125 times per year

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

### **Additional conditions human health**

Covers skin contact area up to 857 cm<sup>2</sup>

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

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

### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 15 %

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

**Amounts used:**

Amount per use 50 g

**Duration:**

Exposure duration 0.2 h/event

**Frequency:**

Covers exposure up to 125 times per year

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Ventilation rate:** Covers use under typical household ventilation.

**Additional conditions human health**

Covers skin contact area up to 428 cm<sup>2</sup>

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

**Product Categories**

Ink and toners (PC18)

### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 50 %

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

**Amounts used:**

Amount per use 50 g

**Duration:**

Exposure duration 8 h/event

**Frequency:**

Covers exposure up to 1 uses per day

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Ventilation rate:** Covers use under typical household ventilation.

**Additional conditions human health**

Covers skin contact area up to 71 cm<sup>2</sup>

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

**Product Categories**

Leather treatment products (PC23)

**Product (Sub-)Categories**

Polishes, wax/cream (floor, furniture, shoes) (PC23\_1, PC31\_1)

### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 50 %

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

**Amounts used:**

Amount per use 50 g

**Duration:**

Exposure duration 1.2 h/event

**Frequency:**

Covers exposure up to 29 times per year



### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Ventilation rate:** Covers use under typical household ventilation.

#### **Additional conditions human health**

Covers skin contact area up to 430 cm<sup>2</sup>

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

<b>Product Categories</b>	Leather treatment products (PC23)
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<b>Product (Sub-)Categories</b>	Polishes, spray (furniture, shoes) (PC23_2, PC31_2)
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### *Product (article) characteristics*

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

Covers concentrations up to 20 %

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

#### **Amounts used:**

Amount per use 50 g

#### **Duration:**

Exposure duration 0.3 h/event

#### **Frequency:**

Covers exposure up to 8 times per year

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Ventilation rate:** Covers use under typical household ventilation.

#### **Additional conditions human health**

Covers skin contact area up to 430 cm<sup>2</sup>

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

<b>Product Categories</b>	Lubricants, greases, release products (PC24)
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<b>Product (Sub-)Categories</b>	Liquids (PC16_1, PC17_1, PC24_1, 36)
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### *Product (article) characteristics*

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

Covers concentrations up to 20 %

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

#### **Amounts used:**

Amount per use 50 g

#### **Duration:**

Exposure duration 0.2 h/event

#### **Frequency:**

Covers exposure up to 4 times per year

### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Ventilation rate:** Covers use under typical household ventilation.

#### **Additional conditions human health**

Covers skin contact area up to 468 cm<sup>2</sup>

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

<b>Product Categories</b>	Plant protection products (PC27)
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### *Product (article) characteristics*

**Concentration of substance in product:**

Covers concentrations up to 50 %

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

Amount per use 50 g

**Duration:**

Exposure duration 0.3 h/event

**Frequency:**

Covers exposure up to 29 times per year

***Other conditions affecting consumers exposure*****Room size:** Covers use in room size of 20 m<sup>3</sup>**Ventilation rate:** Covers use under typical household ventilation.**Additional conditions human health**Covers skin contact area up to 857 cm<sup>2</sup>**8.2. CS15: Consumer Contributing Scenario: Consumer (PC31)****Product Categories**

Polishes and wax blends (PC31)

**Product (Sub-)Categories**

Polishes, wax/cream (floor, furniture, shoes) (PC23\_1, PC31\_1)

***Product (article) characteristics*****Concentration of substance in product:**

Covers concentrations up to 50 %

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

Amount per use 50 g

**Duration:**

Exposure duration 1.2 h/event

**Frequency:**

Covers exposure up to 29 times per year

***Other conditions affecting consumers exposure*****Room size:** Covers use in room size of 20 m<sup>3</sup>**Ventilation rate:** Covers use under typical household ventilation.**Additional conditions human health**Covers skin contact area up to 430 cm<sup>2</sup>**8.2. CS16: Consumer Contributing Scenario: Consumer (PC31)****Product Categories**

Polishes and wax blends (PC31)

**Product (Sub-)Categories**

Polishes, spray (furniture, shoes) (PC23\_2, PC31\_2)

***Product (article) characteristics*****Concentration of substance in product:**

Covers concentrations up to 10 %

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

Amount per use 50 g

**Duration:**

Exposure duration 0.3 h/event

**Frequency:**

Covers exposure up to 8 times per year

### Other conditions affecting consumers exposure

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Ventilation rate:** Covers use under typical household ventilation.

#### Additional conditions human health

Covers skin contact area up to 430 cm<sup>2</sup>

## 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/m <sup>3</sup>	N/A	0.973
inhalative, local, short-term	111 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.00682
inhalative, local, short-term	47.3 mg/m <sup>3</sup>	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)
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inhalative, systemic, long-term	23.5 mg/m <sup>3</sup>	N/A	0.206
inhalative, local, short-term	23.5 mg/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.339
inhalative, local, short-term	38.7 mg/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.15
inhalative, local, short-term	17.1 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.00589
inhalative, local, short-term	0.672 mg/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.00476
inhalative, local, short-term	1.55 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.00776
inhalative, local, short-term	2.52 mg/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.754
inhalative, local, short-term	86 mg/m <sup>3</sup>	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/m <sup>3</sup>	N/A	0.0317
inhalative, local, short-term	45.3 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.00119
inhalative, local, short-term	6.24 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.000322
inhalative, local, short-term	3.36 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.137
inhalative, local, short-term	15.7 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.0317
inhalative, local, short-term	45.3 mg/m <sup>3</sup>	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 <sup>3</sup>	N/A	0.0006
inhalative, local, short-term	3.12 mg/m <sup>3</sup>	N/A	0.0273
dermal, systemic, long-term	5.65 mg/kg bw/day	N/A	0.000597
combined routes, systemic, long-term	N/A	N/A	0.0279

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

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

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