



**Biztonsági adatlap. ellenőrzés 3.0 dátum 15/6/2022**

**1. SZAKASZ: Az anyag/keverék és a vállalat/vállalkozás azonosítása**

1.1. Termékazonosító

Kereskedelmi név:

PHOSFIK PK

Kémiai megjelölés: Monokálium-foszfónát oldat

CAS szám: 13977-65-6

EC szám: 604-162-9

REACH szám: 01-2119988836-13-0016

1.2. Az anyag vagy keverék megfelelő azonosított felhasználásai, illetve ellenjavallt felhasználásai  
Javasolt felhasználási mód:

Folyékony műtrágya mezőgazdasági felhasználásra.

1.3. A biztonsági adatlap szállítójának adatai

Szállító:

Biolchim S.p.A. - Via San Carlo 2130 - 40059 Medicina (BO) - Italy

Biolchim spa - tel 051 6971811

A biztonsági adatlapért felelős illetékes személy:

biolchim@biolchim.it

1.4. Sürgösségi telefonszám

Magyarország: Információs szolgálat akut mérgezés esetén (+36-80) 201-199 (0-24 h, díjmentesen hívható).

**2. SZAKASZ: A veszély azonosítása**

2.1. Az anyag vagy keverék osztályozása

EC 1272/2008 (CLP) irányelv kritériumai:



Figyelem, Eye Irrit. 2, Súlyos szemirritációt okoz.

Az emberi egészségre és a környezetre káros fizikokémiai hatások:

Egyéb veszélyek nincsenek

2.2. Címkézési elemek

Veszélyt jelző piktogramok:



Figyelem

Figyelmeztető mondatok:

H319 Súlyos szemirritációt okoz.

Óvintézkedésre vonatkozó mondatok:

P101 Orvosi tanácsadás esetén tartsa kéznél a termék edényét vagy címkéjét.

P102 Gyermekektől elzárva tartandó.

P103 Olvassa el figyelmesen és kövesse az összes utasítást.

P264 A használatot követően vízzel alaposan meg kell mosni.

P280 Védőkesztyű/védőruha/szemvédő/arcvédő használata kötelező.

P305+P351+P338 SZEMBE KERÜLÉS ESETÉN: Több percig tartó óvatos öblítés vízzel.

Adott esetben a kontaktlencsék eltávolítása, ha könnyen megoldható. Az öblítés folytatása.

Különleges utasítások:

Semmi

Különleges intézkedések a többször módosított REACH rendelet XVII. mellékletének megfelelően:

Semmi



## Biztonsági adatlap. PHOSFIK PK

### 2.3. Egyéb veszélyek

Nincs jelen PBT, vPvB vagy endokrin károsító anyag 0,1%-nál nagyobb koncentrációban.

Egyéb veszélyek:

Egyéb veszélyek nincsenek

## 3. SZAKASZ: Összetétel/összetevőkre vonatkozó információk

### 3.1. Anyagok


Az anyag meghatározása:

Kémiai megjelölés: Monokálium-foszfónát oldat

CAS szám: 13977-65-6

EC szám: 604-162-9

REACH szám: 01-2119988836-13-0016

Menny.	Név	Azonosító sz.	Osztályozás
>= 50% - < 55%	Monokálium-foszfónát	CAS: 13977-65-6 EC: 604-162-9 REACH No.: 01- 2119988836- 13-0016	 3.3/2 Eye Irrit. 2 H319

### 3.2. Keverékek

N.A.

## 4. SZAKASZ: Elsősegély-nyújtási intézkedések

### 4.1. Az elsősegély-nyújtási intézkedések ismertetése

Bőrrel való érintkezés esetén:

A szennyezett ruhaneműt azonnal le kell venni.

Azonnal bő folyóvízzel és esetleg szappannal le kell mosni azt a testrészt, amely érintkezett a termékkel.

Mossuk le teljesen a testet (zuhany vagy fürdő).

Azonnal húzzuk le a szennyezett ruházatot és távolítsuk el azt biztonságos módon.

Bőrrel való érintkezés esetén azonnal mossuk le a bőrfelületet szappannal és bő vízzel legalább 10-15 percig.

Szemmel való érintkezés esetén:

Ha szembe jut, legalább 30 percig nyitott szemhéjjal öblítse le vízzel, majd azonnal forduljon szemészhez. Ha lehetséges, távolítsa el minden kontaktlencsét.

Védjük a sérült szemet.

Lenyelés esetén:

Ne hánytasd magad.

Azonnal forduljon orvoshoz.

Ne adjon semmit, amelyet kezelőorvosa nem kifejezetten engedélyezett.

Belélegzés esetén:

A sérültet vigyük friss levegőre és tartsuk melegen, pihenő helyzetben.

Elsősegély önvédelem:

Tegyen megfelelő óvintézkedéseket a mentőnek az elsősegély-készlet tartalmának megfelelően (388/2003 sz. Miniszteri rendelet)

### 4.2. A legfontosabb – akut és késleltetett – tünetek és hatások

A szemkontaktus vörösséget okoz.

### 4.3. A szükséges azonnali orvosi ellátás és különleges ellátás jelzése

Baleset vagy kellemetlenség esetén azonnal forduljon TOXIKOLÓGIAI KÖZPONTHOZ / orvoshoz (ha lehetséges, mutassa meg a használati utasítást vagy a biztonsági adatlapot).

Kezelés:

A termékkel kapcsolatos specifikus kezelések nem ismertek. Forduljon szakorvoshoz.

A tartalmazzott anyagokkal kapcsolatos információkat lásd a 3. és 11. szakaszban.

## 5. SZAKASZ: Tűzvédelmi intézkedések

**5.1. Oltóanyag**

Megfelelő oltóeszközök:

Szén-dioxid, hab, por és víz.

Oltóeszközök, melyeket biztonsági okokból nem szabad használni:

Különösebben egyik sem.

**5.2. Az anyagból vagy a keverékből származó különleges veszélyek**

Ne lélegezzük be a robbanás vagy égés során kialakuló gázokat.

Az égés nehéz füstöt termel.

**5.3. Tuzoltóknak szóló javaslat**

Hűtsük le a tartályokat vízsugárral.

Mindig viseljen teljes tűzvédelmi felszerelést.

Gyűjtse össze az oltóvizet, amelyet nem szabad a csatornába vezetni.

Az oltáshoz használt szennyezett vizet és a tűz maradványait a hatályos előírásoknak megfelelően ártalmatlanítsa.

**FELSZERELÉS:**

Normál tűzoltási ruházat, például nyitott áramkörű sűrített levegős légzőkészülék (EN 137), égésgátló öltöny (EN 469), égésgátló kesztyű (EN 659) és tűzoltócsizma (HO A29 vagy A30).

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**6. SZAKASZ: Intézkedések véletlenszerű expozíciónál**

**6.1. Személyi óvintézkedések, egyéni védoeszközök és vészhelyzeti eljárások**

Használjon egyéni védőfelszerelést.

A helyszínen tartózkodókat vezesse biztonságos helyre.

Nézze át a 7. és 8. pontokban található védelmi intézkedéseket.

**6.2. Környezetvédelmi óvintézkedések**

Akadályozza meg, hogy az anyag a földre/föld alá jusson. Akadályozza meg, hogy az anyag vízbe vagy csatornába jusson.

Gyűjtse össze a mosáshoz használt szennyezett vizet és ürítse ki.

Ha gáz szabadul fel, vagy gáz jut a vízvezetékbe, földbe vagy csatornába, értesítse a felelős hatóságokat.

A gyűjtéshez megfelelő anyagok: szívóhatású anyag, szerves, homok

**6.3. A területi elhatárolás és a szennyezésmentesítés módszerei és anyagai**

Területi elhatárolás:

Gyűjtse össze a terméket újrafelhasználásra, ha lehetséges, vagy ártalmatlanításra.

Visszanyerésre vagy ártalmatlanításra, vákuumra vagy tisztításra és megfelelő címkézett edényekbe helyezzük.

Szennyezésmentesítés:

Gondoskodjon megfelelő szellőzésről a szivárgás által érintett helyen. A szennyezett anyag ártalmatlanítását a 13. szakasz rendelkezéseinek megfelelően kell végrehajtani.

A szennyeződések azonnal távolítsa el.

**6.4. Hivatkozás más szakaszokra**

A személyes védelemre és ártalmatlanításra vonatkozó információkat a 8. és 13. szakasz tartalmazza.

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**7. SZAKASZ: Kezelés és tárolás**

**7.1. A biztonságos kezelésre irányuló óvintézkedések**

A termék kezelése után vegye figyelembe a biztonsági adatlap összes többi szakaszát.

Kerülje a termék szétszóródását a megjelölt felhasználásokon kívüli környezetben.

Kerülje a bőrrel és szemmel való érintkezést, a gőzök és ködök belégzését.

Az ajánlott védőfelszerelést lásd még a 8. részben.

Általános foglalkozási higiéniai ajánlások:

A termék használata közben tilos enni, inni vagy dohányozni

Használatot követő kézmosás

Étkezőhelyiségekbe való belépés előtt le kell venni a szennyezett ruházatot.

**7.2. A biztonságos tárolás feltételei, az esetleges összeférhetetlenséggel együtt**

Tartsa a terméket egyértelműen címkézett edényekben.

Óvatosan és óvatosan tárolja, elkerülve a bizonytalan tárolást.

A tartályokat jól szellőző helyen tartsa zárva.

A tartályokat száraz helyen, napfénytől és más légköri tényezőktől távol tárolja.

Tartsa távol ételtől, italtól és takarmánytól.

Összeférhetetlen anyagok:

Lásd a következő 10. bekezdést.

A helyiségekre vonatkozó utasítások:

Hűvös és megfelelően szellőztetett.

### 7.3. Meghatározott végfelhasználás (végfelhasználások)

Lásd az 1.2 szakaszt

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## 8. SZAKASZ: Az expozíció ellenőrzése/egyéni védelem

### 8.1. Ellenőrzési paraméterek

Munkahelyi expozíciós határérték nem elérhető

#### DNEL expozíciós határértékek

Monokálium-foszfónát - CAS: 13977-65-6

Ipari munkás: 41.2 mg/m<sup>3</sup> - Szakmunkás: 41.2 mg/m<sup>3</sup> - Felhasználó: 10.2 mg/m<sup>3</sup> -

Expozíció: Humán belélegzés - Frekvencia: Hosszú távú, rendszeres hatások

Ipari munkás: 59 mg/ttkg/nap - Szakmunkás: 59 mg/ttkg/nap - Felhasználó: 29

mg/ttkg/nap - Expozíció: Humán dermatológiai - Frekvencia: Hosszú távú, rendszeres hatások

Felhasználó: 2.9 mg/ttkg/nap - Expozíció: Humán orális - Frekvencia: Hosszú távú, rendszeres hatások

#### PNEC expozíciós határértékek

Monokálium-foszfónát - CAS: 13977-65-6

Cél: Édesvíz - Érték: 0.137 mg/l

Cél: Tengervíz - Érték: 0.0137 mg/l

Cél: Szakaszos kiadás - Érték: 1.37 mg/kg

Cél: Édesvízi üledék - Érték: 0.117 mg / kg üledék dw

Cél: Tengervízi üledék - Érték: 0.012 mg / kg üledék dw

Cél: STP - Érték: 100 mg/l

Cél: talaj - Érték: 1 mg / kg talaj dw

### 8.2. Az expozíció ellenőrzése

#### A szem védelme:

Szemüveg oldalsó védelemmel.

(lásd az EN 166 szabványt)

#### A bőr védelme:

Eldobható öltözet.

(lásd az EN 13034 szabványt)

Biztonsági cipő.

(lásd az UNI EN ISO 20345 szabványt)

#### A kéz védelme:

Megfelelő kesztyű típus:

Ehyszerhasználatos kesztyű.

Megfelelő anyag:

NBR (nitril gumi).

(lásd az EN 374 szabványt)

Az étkezés, ivás vagy dohányzás előtt mosson kezet.

#### Légzési óvintézkedések:

Kerülje a termék belélegzését.

Biztosítson megfelelő szellőzést. Biztosítani kell a jó helyi szellőzést és a jó általános légcserélő rendszert.

#### Termikus veszélyek:

Magas hőmérsékleten irritáló gázok / gőzök felszabadulásakor bomlik.

#### Környezeti kitétségi ellenőrzés:

Használja a jó munkamódszereket, elkerülve a termék környezetben való diszpergálását.  
Ne engedje a terméket a csatornába.  
Megfelelő műszaki ellenőrzés:  
Biztosítson megfelelő szellőzést, különösen zárt térben.

## 9. SZAKASZ: Fizikai és kémiai tulajdonságok

9.1. Az alapvető fizikai és kémiai tulajdonságokra vonatkozó információk

Tulajdonságok	Érték	Mód:	Megjegyzések
Halmazállapot (20°C-101,3kPa):	Folyadék	--	--
Szín:	színtelen	--	--
Szag:	Nem lényeges	--	Nem releváns a termékosztályozás szempontjából.
Olvadáspont/fagyáspont:	197°C (range 189-194°C) ref. to the crystal	--	--
Forráspont vagy kezdő forráspont és forrásponttartomány:	Nem lényeges	--	Forráspont magasabb, mint a termék használati tartománya.
Tűzveszélyesség:	nem gyúlékony	--	--
Felső és alsó robbanási határértékek:	N.A.	--	Nem gyúlékony.
Gyulladáspont:	N.A.	--	Nem gyúlékony
Öngyulladási hőmérséklet:	N.A.	--	Nem gyúlékony.
Bomlási hőmérséklet:	Nem lényeges	--	Bomlási hőmérséklet magasabb, mint a termék használati tartománya.
pH (20°C):	4.7	--	--
Kinematikus viszkozitás:	Nem lényeges	--	Termékbesorolás szempontjából nem releváns
Vízben oldhatóság:	Oldódó	--	--
Oldhatóság olajban:	Nem lényeges	--	Nem releváns a termék osztályozása és felhasználása szempontjából.
N-oktanol/víz megoszlási hányados (log érték):	N.A.	--	--
Gőznyomás:	Nem lényeges	--	Nem releváns a termékosztályozás szempontjából.
Sűrűség és/vagy relatív sűrűség (20°C):	1.42 Kg/L	--	--
Relatív gőzsűrűség:	Nem lényeges	--	Nem releváns a termékosztályozás szempontjából.

Részecskejellemzők:

Részecskeméretet:	N.A.	--	--
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9.2. Egyéb információk

Tulajdonságok	Érték	Mód:	Megjegyzések
Elegyedés:	Keverhető vízzel	--	--

Vezetés (25°C):	4.3 mS/cm (sol. 1% w/w)	--	--
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## 10. SZAKASZ: Stabilitás és reakciókészség

### 10.1. Reakciókészség

Normál körülmények között stabil

Információk az anyagokról:

N.A.

### 10.2. Kémiai stabilitás

Normál körülmények között stabil

Információk az anyagokról:

N.A.

### 10.3. A veszélyes reakciók lehetősége

Semmi

Információk az anyagokról:

N.A.

### 10.4. Kerülendő körülmények

Normál körülmények között stabil.

Információk az anyagokról:

Monokálium-foszfónát - CAS: 13977-65-6

Magas hőmérsékletek

### 10.5. Nem összeférhető anyagok

Különösebben semmi.

Információk az anyagokról:

Monokálium-foszfónát - CAS: 13977-65-6

Redukálószeres, erős savak és bázisok, fémporok.

### 10.6. Veszélyes bomlástermékek

A rendelkezésünkre álló adatok szerint senki nem jelent különösebben jelentést.

Információk az anyagokról:

Monokálium-foszfónát - CAS: 13977-65-6

Magas hőmérsékleten bomlik, és irritáló gázok / gőzök szabadulnak fel.

## 11. SZAKASZ: Toxikológiai információk

11.1. Az 1272/2008/EK rendeletben meghatározott, veszélyességi osztályokra vonatkozó információk

A termékkel kapcsolatos toxikológiai információk:

PHOSFIK PK - CAS: 13977-65-6

#### a) akut toxicitás

Nincs besorolva

A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.

#### b) bőrkorrózió/bőrirritáció

Nincs besorolva

A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.

#### c) súlyos szemkárosodás/szemirritáció

A termék osztályozása: Eye Irrit. 2 H319

#### d) légzőszervi vagy bőrszenzibilizáció

Nincs besorolva

A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.

#### e) csírasejt-mutagenitás

Nincs besorolva

A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.

#### f) rákkeltő hatás

Nincs besorolva

A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.

#### g) reprodukciós toxicitás

- Nincs besorolva  
A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.
- h) egyetlen expozíció utáni célszervi toxicitás (STOT)  
Nincs besorolva  
A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.
- i) ismétlődő expozíció utáni célszervi toxicitás (STOT)  
Nincs besorolva  
A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.
- j) aspirációs veszély  
Nincs besorolva  
A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.
- A termékben talált legfontosabb anyagokkal kapcsolatos toxikológiai információk:  
Monokálium-foszfónát - CAS: 13977-65-6
- a) akut toxicitás:  
Teszt: LD50 - Kijutás: Szájon át - Módosulatok: Patkány > 2000 mg/kg testsúly -  
Forrás: EU Method B.1 tris  
Teszt: LD50 - Kijutás: Bőr - Módosulatok: Patkány > 5000 mg/kg testsúly - Forrás:  
OECD 402
- b) bőrkorrózió/bőrirritáció:  
Teszt: Irritálja a bőrt - Kijutás: Bőr - Módosulatok: Nyúl Negatív - Forrás: OECD 439
- c) súlyos szemkárosodás/szemirritáció:  
Teszt: Irritálja a szemet Pozitív - Forrás: HCE (in vitro) MTT test method
- d) légzőszervi vagy bőrszenzibilizáció:  
Teszt: Bőr szenzibilizáció - Módosulatok: MOUSE F Negatív - Forrás: Local lymphnode  
assay (EU Method B.42)
- e) csírasejt-mutagenitás:  
Módosulatok: Salmonella typhimurium Negatív - Forrás: OECD 471
- g) reprodukciós toxicitás:  
Teszt: NOAEL - Kijutás: Szájon át - Módosulatok: Patkány > 1000 mg/kg testsúly/nap -  
Forrás: (repr./dev.) OECD 422
- i) ismétlődő expozíció utáni célszervi toxicitás (STOT):  
Teszt: NOAEL - Kijutás: Szájon át - Módosulatok: MOUSE F > 100 mg/kg testsúly -  
Forrás: OECD 422
- 11.2. Egyéb veszélyekkel kapcsolatos információ  
Endokrin károsító tulajdonságok:  
Nincsenek jelen endokrin károsító anyagok 0,1%-nál nagyobb koncentrációban.

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## 12. SZAKASZ: Ökológiai információk

- 12.1. Toxicitás  
A megfelelő gyakorlati tapasztalatok alapján kell alkalmazni és el kell kerülni, hogy a termék a környezetet szennyezze.
- PHOSFIK PK - CAS: 13977-65-6  
Nincs környezeti veszélyekre osztályozva  
A rendelkezésre álló adatok alapján az osztályozás kritériumai nem teljesülnek.
- Monokálium-foszfónát - CAS: 13977-65-6
- a) Akut vízi toxicitás:  
Végpont: LC50 - Módosulatok: Hal > 200 mg/l - Időtartam h: 96 - Megjegyzések: OECD 203 (Brachydanio rerio)  
Végpont: LC50 - Módosulatok: Daphnia > 200 mg/l - Időtartam h: 48 - Megjegyzések: OECD 202 (Daphnia magna)  
Végpont: EC50r - Módosulatok: Alga = 137.5 mg/l - Időtartam h: 72 - Megjegyzések: OECD 201 (Desmodesmus subspicatus)  
Végpont: EC50b - Módosulatok: Alga = 101.3 mg/l - Időtartam h: 72 - Megjegyzések: OECD 201 (Desmodesmus subspicatus)



- c) Bakteriális toxicitás:  
Végpont: EC50 - Módosulatok: Mikroorganizmus > 1000 mg/l - Időtartam h: 3 -  
Megjegyzések: EU Method C.11
- d) Talaj toxicitás:  
Végpont: LC50 - Módosulatok: Földigiliszták > 1000 mg/kg - Időtartam h: 14 d -  
Megjegyzések: OECD 207 (Eisenia fetida)
- 12.2. Perzisztencia és lebonthatóság  
Semmi  
Monokálium-foszfónát - CAS: 13977-65-6  
Biodegradáció: Nincs szükség a vizsgálat elvégzésére, ha az anyag szervesen.  
Biodegradáció: kitartás - Teszt: 2 - Megjegyzések: > 120
- 12.3. Bioakkumulációs képesség  
Monokálium-foszfónát - CAS: 13977-65-6  
Bioakkumuláció: Szervesen anyagok esetében nem releváns
- 12.4. A talajban való mobilitás  
N.A.
- 12.5. A PBT- és a vPvB-értékelés eredményei  
vPvB anyagok: Semmi - PBT anyagok: Semmi
- 12.6. Endokrin károsító tulajdonságok  
Nincsenek jelen endokrin károsító anyagok 0,1%-nál nagyobb koncentrációban.
- 12.7. Egyéb káros hatások  
Semmi

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### 13. SZAKASZ: Ártalmatlanítási szempontok

- 13.1. Hulladékkezelési módszerek  
Ne dobja a fel nem használt terméket és a tartályt a környezetbe.  
A terméket részben tartalmazó hulladék veszélyességét a hatályos törvények szerint kell értékelni.  
Az ártalmatlanítást engedélyezett hulladékkezelő társaságra kell bízni, az országos és esetleg helyi előírások betartásával.  
SZennyezett csomagolások:  
A szennyezett csomagolást hasznosításra vagy ártalmatlanításra kell küldeni a nemzeti hulladékgazdálkodási előírásoknak megfelelően.

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### 14. SZAKASZ: Szállításra vonatkozó információk

- 14.1. UN-szám vagy azonosító szám  
A szállítási szabályok értelmében nem veszélyes áru.
- 14.2. Az ENSZ szerinti megfelelő szállítási megnevezés  
N.A.
- 14.3. Szállítási veszélyességi osztály(ok)  
N.A.
- 14.4. Csomagolási csoport  
N.A.
- 14.5. Környezeti veszélyek  
Tengert szennyező anyag: Nem  
N.A.
- 14.6. A felhasználót érinto különleges óvintézkedések  
N.A.
- 14.7. Az IMO-szabályok szerinti tengeri ömlesztett szállítás  
N.A.

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### 15. SZAKASZ: Szabályozással kapcsolatos információk

- 15.1. Az adott anyaggal vagy keverékkel kapcsolatos biztonsági, egészségügyi és környezetvédelmi előírások/jogszabályok



98/24/EK irányelv (A munkájuk során vegyi anyagokkal kapcsolatos kockázatoknak kitett munkavállalók egészségének és biztonságának védelme)  
2000/39/EK irányelv (Munkahelyi expozíciós határértékek)  
1907/2006/EK (REACH) szabályozás  
1272/2008/EK (CLP) szabályozás  
790/2009/EK (ATP 1 CLP) szabályozás és 758/2013/EU  
2020/878/EU szabályozás  
286/2011/EU (ATP 2 CLP) szabályozás  
618/2012/EU (ATP 3 CLP) szabályozás  
487/2013/EU (ATP 4 CLP) szabályozás  
944/2013/EU (ATP 5 CLP) szabályozás  
605/2014/EU (ATP 6 CLP) szabályozás  
Nemzetközi előírások a veszélyes áruk szállítására vonatkozó (ADR, RID, IMDG, ICAO / IATA).  
2015/1221/EU (ATP 7 CLP) szabályozás  
2016/918/EU (ATP 8 CLP) szabályozás  
2016/1179/EU (ATP 9 CLP) szabályozás  
2017/776/EU (ATP 10 CLP) szabályozás  
2018/669/EU (ATP 11 CLP) szabályozás  
2018/1480/EU (ATP 13 CLP) szabályozás  
2019/521 /EU (ATP 12 CLP) szabályozás  
2020/217/EU (ATP 14 CLP) szabályozás  
2020/1182/EU (ATP 15 CLP) szabályozás  
2021/643/EU (ATP 16 CLP) szabályozás

Korlátozások a tartalmazott termékkel vagy anyaggal kapcsolatban, a többször módosított 1907/2006 (EC) (REACH) rendelet XVII. mellékletének megfelelően:

A termékkel kapcsolatos megkötések:

Korlátozás 3

A termékben található anyagokkal kapcsolatos megkötések:

Nincs korlátozás.

Ahol alkalmazható, a következő szabályzat az irányadó:

Tanács 2012/18/EU irányelve (Seveso III)

Az Európai Parlament és a Tanács 648/2004/EK rendelete (a mosó- és tisztítószerokról).

2004/42/EK irányelv (illékony szerves vegyületek)

(EU) 2019/1148 rendelet

A 2012/18/EK irányelvhez kötődő rendelkezések (Seveso III):

Seveso III. kategória az 1. melléklet 2. rész szerint

NA

15.2. Kémiai biztonsági értékelés

A kémiai biztonsági értékelést végezték a keverékre.

A következő anyagoknál történt meg a kémiai biztonsági értékelés:

Monokálium-foszfónát

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## 16. SZAKASZ: Egyéb információk

A 3. bekezdésben használható szöveg:

H319 Súlyos szemirritációt okoz.

Veszélyességi osztály és veszélyességi kategória	Kód	Leírás
Eye Irrit. 2	3.3/2	Szemirritáció, kategória 2

Az előző kiadás módosított bekezdései:

## Biztonsági adatlap. PHOSFIK PK

- 2. SZAKASZ: A veszély azonosítása
- 3. SZAKASZ: Összetétel/összetevőkre vonatkozó információk
- 4. SZAKASZ: Elsősegély-nyújtási intézkedések
- 7. SZAKASZ: Kezelés és tárolás
- 8. SZAKASZ: Az expozíció ellenőrzése/egyéni védelem
- 9. SZAKASZ: Fizikai és kémiai tulajdonságok
- 10. SZAKASZ: Stabilitás és reakciókészség
- 11. SZAKASZ: Toxikológiai információk
- 12. SZAKASZ: Ökológiai információk
- 15. SZAKASZ: Szabályozással kapcsolatos információk
- 16. SZAKASZ: Egyéb információk

A keverékek tekintetében az 1272/2008/EK rendelet [CLP] szerinti osztályozás és az osztályozás származtatására alkalmazott eljárás:

Az 1272/2008/EK rendelet szerinti osztályozás	Osztályozási eljárás
Eye Irrit. 2, H319	Számítási módszer

Ezt a dokumentumot olyan szakember készítette, aki ezzel kapcsolatban megfelelő képzést kapott  
Főbb bibliográfiai források:

- ECDIN – Vegyi anyagok környezetvédelmi adat- és információs hálózata – Közös Kutatóközpont, az Európai Közösségek Bizottsága
- SAX: AZ IPARI ANYAGOK VESZÉLYES TULAJDONSÁGAI – Nyolcadik kiadás – Van Nostrand Reinold

A közzétett információk a fent jelzett időpontban rendelkezésünkre álló ismeretekre alapulnak. Kizárólag a megjelölt termékre vonatkoznak és nem képeznek különösebb minőségi garanciát. A felhasználónak kötelessége megbizonyosodni ezen információk helyessége és teljessége felől, az egyéni felhasználásnak megfelelően.

Ez az adatlap minden előzetes adatlapot érvénytelenít és helyettesít.

ADR:	Veszélyes Áruk Nemzetközi Közúti Szállításáról szóló Európai Megállapodás.
ATE:	Becsült akut toxicitási érték
ATEmix:	Akut toxicitási érték (Keverékek)
CAS:	Kémiai Nyilvántartó Szolgálat (az Amerikai Kémiai Társaság részlege).
CLP:	Osztályozás, Címkézés, Csomagolás.
DNEL:	Származtatott hatásmentes szint.
EINECS:	Létező Kereskedelmi Vegyi Anyagok Európai Jegyzéke.
GefStoffVO:	Veszélyes Anyagok Német Szabályzata.
GHS:	Vegyi Anyagok Osztályozásának és Címkézésének Egyetemes Harmonizált Rendszere.
IATA:	Nemzetközi Légiszállítási Szövetség.
IATA-DGR:	Nemzetközi Légiszállítási Szövetség - Veszélyes Anyagok Előírásai.
ICAO:	Nemzetközi Polgári Repülési Szervezet.
ICAO-TI:	Nemzetközi Polgári Repülési Szervezet Műszaki Utasítása.
IMDG:	Veszélyes Áruk Nemzetközi Tengerészeti Kódexe.
INCI:	A Kozmetikai Összetevők Nemzetközi Nevezéktana.
KSt:	Robbanási együttható.
LC50:	Közepes halálos koncentráció
LD50:	Közepes halálos dózis
PNEC:	Becsült Hatásmentes Koncentráció
RID:	Veszélyes Áruk Nemzetközi Vasúti Fuvarozásáról szóló Szabályzat
STEL:	Rövid Távú Expozíciós Érték
STOT:	Célszervi Toxicitás.
TLV:	Küszöbérték.



**Biztonsági adatlap.**  
**PHOSFIK PK**

TWA: Időarányosan súlyozott átlag  
WGK: Vízveszélyeztetési osztály.

## All I – 1. Exposure scenario 1: Manufacture - Manufacture

<b>Environment contributing scenario(s):</b>	
Manufacture	ERC 1
<b>Worker contributing scenario(s):</b>	
Manufacturing in closed batch process	PROC 3
Manufacturing in batch process with opportunity for exposure	PROC 4
Charging/discharging in dedicated facilities	PROC 8b
Charging/discharging in non dedicated facilities	PROC 8a
Charging/discharging in small containers	PROC 9
Sampling	PROC 15

### 1.1. Environmental contributing scenario 1: Manufacture

#### 1.1.1. Conditions of use

<b>Amount used, frequency and duration of use (or from service life)</b>
• Daily use at site: <= 45 tonnes/day
• Annual use at a site: <= 900 tonnes/year
• Percentage of tonnage used at regional scale: = 100 %
<b>Conditions and measures related to sewage treatment plant</b>
• Municipal STP: Yes [Effectiveness Water: 0.013%]
• Discharge rate of STP: >= 2E3 m <sup>3</sup> /d
• Application of the STP sludge on agricultural soil: Yes
<b>Conditions and measures related to treatment of waste (including article waste)</b>
• Particular considerations on the waste treatment operations: No (low risk) (ERC based assessment demonstrating control of risk with default conditions. Low risk assumed for waste life stage. Waste disposal according to national/local legislation is sufficient.)
<b>Other conditions affecting environmental exposure</b>
• Receiving surface water flow rate: >= 1.8E4 m <sup>3</sup> /d

#### 1.1.2. Releases

The local releases to the environment are reported in the following table.

#### Local releases to the environment

Release	Release factor estimation method	Explanation / Justification
Water	Release factor	Initial release factor: 0.001% Final release factor: 0.001% Local release rate: 0.45 kg/day
Air	Release factor	Initial release factor: 0% Final release factor: 0% Local release rate: 0 kg/day
Soil	ERC based	Final release factor: 0.01%

#### 1.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for the environment**

Protection target	Exposure concentration	Risk characterisation
Freshwater	<b>Local PEC:</b> 0.027 mg/L	RCR = 0.198
Sediment (freshwater)	<b>Local PEC:</b> 0.1 mg/kg dw	RCR = 0.859
Marine water	<b>Local PEC:</b> 0.003 mg/L	RCR = 0.198
Sediment (marine water)	<b>Local PEC:</b> 0.01 mg/kg dw	RCR = 0.857
Sewage treatment plant	<b>Local PEC:</b> 0.225 mg/L	RCR < 0.01
Agricultural soil	<b>Local PEC:</b> 8.742E-4 mg/kg dw	RCR < 0.01
Man via Environment - Inhalation	<b>Local PEC:</b> 1.084E-13 mg/m <sup>3</sup>	RCR < 0.01
Man via Environment - Oral	<b>Exposure via food consumption:</b> 2.626E-4 mg/kg bw/day	RCR < 0.01
Man via environment - combined routes		RCR < 0.01

**Contribution to oral intake for man via the environment from local contribution**

Type of food	Estimated daily dose	Concentration in food
Drinking water	1.682E-4 mg/kg bw/day	0.006 mg/L
Fish	4.836E-6 mg/kg bw/day	0.003 mg/kg ww
Leaf crops	6.213E-5 mg/kg bw/day	0.004 mg/kg ww
Root crops	2.745E-5 mg/kg bw/day	0.005 mg/kg ww
Meat	1.901E-9 mg/kg bw/day	4.42E-7 mg/kg ww
Milk	3.543E-8 mg/kg bw/day	4.42E-6 mg/kg ww

**Conclusion on risk characterisation**

Production is made in dedicated facilities, where the substance is discharged directly in the final container and no cleaning/washing of the reaction tank/vessel is made between different batches. Water coming from the plant is not directly discharged in the municipal net.

In those conditions environmental risk is controlled

**1.2. Worker contributing scenario 1: Manufacturing in closed batch process (PROC 3)**

**1.2.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Closed batch process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3

	Method
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: One hand face only (240 cm <sup>2</sup> )	TRA Worker v3

### 1.2.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>0.69 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.012
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.024

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

### 1.3. Worker contributing scenario 2: Manufacturing in batch process with opportunity for exposure (PROC 4)

#### 1.3.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3

	Method
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): <= 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

### 1.3.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>1.372 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.023
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.035

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### 1.4. Worker contributing scenario 3: Charging/discharging in dedicated facilities (PROC 8b)

#### 1.4.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): <= 40 °C	TRA Worker v3



	Method
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

#### 1.4.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

##### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.059

##### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

#### 1.5. Worker contributing scenario 4: Charging/discharging in non dedicated facilities (PROC 8a)

##### 1.5.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

##### 1.5.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

##### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.059

#### **Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### **1.6. Worker contributing scenario 5: Charging/discharging in small containers (PROC 9)**

#### **1.6.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

#### **1.6.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### **Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>1.372 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.023

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.035

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

**1.7. Worker contributing scenario 6: Sampling (PROC 15)**

**1.7.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: One hand face only (240 cm <sup>2</sup> )	TRA Worker v3

**1.7.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>0.34 mg/kg bw/day</b> (TRA Worker v3)	RCR < 0.01
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.018

**Conclusion on risk characterisation**



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The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in common condition of use

## 2. Exposure scenario 2: Formulation - Formulation of the fertilizer

<b>Environment contributing scenario(s):</b>	
Formulation of the fertilizer	ERC 2
<b>Worker contributing scenario(s):</b>	
Formulation in closed batch process	PROC 3
Formulation in batch process with opportunity for exposure	PROC 4
Formulation with open contact	PROC 5
Charging/discharging in non dedicated facilities	PROC 8a
Charging/discharging in dedicated facilities	PROC 8b
Charging/discharging in small containers	PROC 9
Sampling	PROC 15

### 2.1. Environmental contributing scenario 1: Formulation of the fertilizer

#### 2.1.1. Conditions of use

<b>Amount used, frequency and duration of use (or from service life)</b>
• Daily use at site: <= 9.5 tonnes/day
• Annual use at a site: <= 950 tonnes/year
• Percentage of tonnage used at regional scale: = 100 %
<b>Conditions and measures related to sewage treatment plant</b>
• Municipal STP: Yes [Effectiveness Water: 0.013%]
• Discharge rate of STP: >= 2E3 m3/d
• Application of the STP sludge on agricultural soil: Yes
<b>Conditions and measures related to treatment of waste (including article waste)</b>
• Particular considerations on the waste treatment operations: No (low risk) (ERC based assessment demonstrating control of risk with default conditions. Low risk assumed for waste life stage. Waste disposal according to national/local legislation is sufficient.)
<b>Other conditions affecting environmental exposure</b>
• Receiving surface water flow rate: >= 1.8E4 m3/d

#### 2.1.2. Releases

The local releases to the environment are reported in the following table.

#### Local releases to the environment

Release	Release factor estimation method	Explanation / Justification
Water	Release factor	<b>Initial release factor:</b> 0.001% <b>Final release factor:</b> 0.001% <b>Local release rate:</b> 0.095 kg/day
Air	Release factor	<b>Initial release factor:</b> 0% <b>Final release factor:</b> 0% <b>Local release rate:</b> 0 kg/day
Soil	ERC based	<b>Final release factor:</b> 0.01%

### 2.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for the environment

Protection target	Exposure concentration	Risk characterisation
Freshwater	<b>Local PEC:</b> 0.009 mg/L	RCR = 0.069
Sediment (freshwater)	<b>Local PEC:</b> 0.035 mg/kg dw	RCR = 0.297
Marine water	<b>Local PEC:</b> 9.361E-4 mg/L	RCR = 0.068
Sediment (marine water)	<b>Local PEC:</b> 0.003 mg/kg dw	RCR = 0.296
Sewage treatment plant	<b>Local PEC:</b> 0.047 mg/L	RCR < 0.01
Agricultural soil	<b>Local PEC:</b> 7.919E-4 mg/kg dw	RCR < 0.01
Man via Environment - Inhalation	<b>Local PEC:</b> 1.084E-13 mg/m <sup>3</sup>	RCR < 0.01
Man via Environment - Oral	<b>Exposure via food consumption:</b> 2.6E-4 mg/kg bw/day	RCR < 0.01
Man via environment - combined routes		RCR < 0.01

#### Contribution to oral intake for man via the environment from local contribution

Type of food	Estimated daily dose	Concentration in food
Drinking water	1.701E-4 mg/kg bw/day	0.006 mg/L
Fish	4.892E-6 mg/kg bw/day	0.003 mg/kg ww
Leaf crops	5.887E-5 mg/kg bw/day	0.003 mg/kg ww
Root crops	2.601E-5 mg/kg bw/day	0.005 mg/kg ww
Meat	1.904E-9 mg/kg bw/day	4.427E-7 mg/kg ww
Milk	3.548E-8 mg/kg bw/day	4.427E-6 mg/kg ww

#### Conclusion on risk characterisation

Formulation is made in dedicated facilities, where the substance is discharged directly in the final container and no cleaning/washing of the reaction tank/vessel is made between different batches. Water coming from the plant are not directly discharged in the municipal net  
In those conditions environmental risk is controlled

## 2.2. Worker contributing scenario 1: Formulation in closed batch process (PROC 3)

### 2.2.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Closed batch process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3

	Method
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: One hand face only (240 cm <sup>2</sup> )	TRA Worker v3

### 2.2.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>0.69 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.012
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.024

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

### 2.3. Worker contributing scenario 2: Formulation in batch process with opportunity for exposure (PROC 4)

#### 2.3.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3



	Method
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): <= 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

### 2.3.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>1.372 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.023
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.035

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### 2.4. Worker contributing scenario 3: Charging/discharging in non dedicated facilities (PROC 8a)

#### 2.4.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3

	Method
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

#### 2.4.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

##### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.059

##### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

#### 2.5. Worker contributing scenario 4: Charging/discharging in dedicated facilities (PROC 8b)

##### 2.5.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

##### 2.5.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.059

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

**2.6. Worker contributing scenario 5: Charging/discharging in small containers (PROC 9)**

**2.6.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

**2.6.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Dermal, systemic, long-term	<b>1.372 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.023
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.035

#### **Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### **2.7. Worker contributing scenario 6: Sampling (PROC 15)**

#### **2.7.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: One hand face only (240 cm <sup>2</sup> )	TRA Worker v3

#### **2.7.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### **Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>0.34 mg/kg bw/day</b> (TRA Worker v3)	RCR < 0.01
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.018

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in common condition of use

**2.8. Worker contributing scenario 7: Formulation with open contact (PROC 5)**

**2.8.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

**2.8.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.3 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.054

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### 3. Exposure scenario 3: Use by professional worker - Professional use as fertilizer-indoor

#### Sector of use:

SU 1, Agriculture, forestry, fishery

Environment contributing scenario(s):	
Professional use as fertilizer	ERC 8a
Worker contributing scenario(s):	
Professional mixing and blending of the fertilizer	PROC 5
Professional spraying	PROC 11
Charging/discharging in non dedicated facilities	PROC 8a
Charging/discharging in dedicated facilities	PROC 8b
Charging/discharging in small containers	PROC 9

#### 3.1. Environmental contributing scenario 1: Professional use as fertilizer

##### 3.1.1. Conditions of use

Amount used, frequency and duration of use (or from service life)
• Daily wide dispersive use: $\leq 1.1E-4$ tonnes/day
• Percentage of tonnage used at regional scale: = 10 %
Conditions and measures related to sewage treatment plant
• Municipal STP: Yes [Effectiveness Water: 0.013%]
• Discharge rate of STP: $\geq 2E3$ m <sup>3</sup> /d
• Application of the STP sludge on agricultural soil: Yes
Conditions and measures related to treatment of waste (including article waste)
• Particular considerations on the waste treatment operations: No (low risk) (ERC based assessment demonstrating control of risk with default conditions. Low risk assumed for waste life stage. Waste disposal according to national/local legislation is sufficient.)
Other conditions affecting environmental exposure
• Receiving surface water flow rate: $\geq 1.8E4$ m <sup>3</sup> /d

##### 3.1.2. Releases

The local releases to the environment are reported in the following table.

##### Local releases to the environment

Release	Release factor estimation method	Explanation / Justification
Water	ERC based	Initial release factor: 100% Final release factor: 100% Local release rate: 0.11 kg/day
Air	ERC based	Initial release factor: 100% Final release factor: 100%
Soil	ERC based	Final release factor: 0%

##### 3.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

##### Exposure concentrations and risks for the environment

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Protection target	Exposure concentration	Risk characterisation
Freshwater	<b>Local PEC:</b> 0.01 mg/L	RCR = 0.074
Sediment (freshwater)	<b>Local PEC:</b> 0.038 mg/kg dw	RCR = 0.321
Marine water	<b>Local PEC:</b> 0.001 mg/L	RCR = 0.074
Sediment (marine water)	<b>Local PEC:</b> 0.004 mg/kg dw	RCR = 0.32
Sewage treatment plant	<b>Local PEC:</b> 0.055 mg/L	RCR < 0.01
Agricultural soil	<b>Local PEC:</b> 7.954E-4 mg/kg dw	RCR < 0.01
Man via Environment - Inhalation	<b>Local PEC:</b> 1.084E-13 mg/m <sup>3</sup>	RCR < 0.01
Man via Environment - Oral	<b>Exposure via food consumption:</b> 3.836E-4 mg/kg bw/day	RCR < 0.01
Man via environment - combined routes		RCR < 0.01

### Contribution to oral intake for man via the environment from local contribution

Type of food	Estimated daily dose	Concentration in food
Drinking water	2.901E-4 mg/kg bw/day	0.01 mg/L
Fish	8.34E-6 mg/kg bw/day	0.005 mg/kg ww
Leaf crops	5.901E-5 mg/kg bw/day	0.003 mg/kg ww
Root crops	2.607E-5 mg/kg bw/day	0.005 mg/kg ww
Meat	2.693E-9 mg/kg bw/day	6.262E-7 mg/kg ww
Milk	5.019E-8 mg/kg bw/day	6.262E-6 mg/kg ww

### Conclusion on risk characterisation

The risk is controlled

## 3.2. Worker contributing scenario 1: Professional mixing and blending of the fertilizer (PROC 5)

### 3.2.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3



	Method
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): <= 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

### 3.2.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.3 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.054

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### 3.3. Worker contributing scenario 2: Professional spraying (PROC 11)

#### 3.3.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374 with basic employee training) [Effectiveness Dermal: 90%]	TRA Worker v3
• Respiratory Protection: Yes (Respirator with APF of 10) [Effectiveness Inhal: 90%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3

	Method
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands and upper wrists (1500 cm <sup>2</sup> )	TRA Worker v3

### 3.3.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>30.02 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.729
Dermal, systemic, long-term	<b>10.71 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.182
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.91

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves and respiratory protection is recommended

### 3.4. Worker contributing scenario 3: Charging/discharging in non dedicated facilities (PROC 8a)

#### 3.4.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

### 3.4.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.3 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.054

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### 3.5. Worker contributing scenario 4: Charging/discharging in dedicated facilities (PROC 8b)

#### 3.5.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

#### 3.5.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.3 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.054

#### **Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### **3.6. Worker contributing scenario 5: Charging/discharging in small containers (PROC 9)**

#### **3.6.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

#### **3.6.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### **Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.3 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>1.372 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.023

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<b>Route of exposure and type of effects</b>	<b>Exposure concentration</b>	<b>Risk characterisation</b>
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.031

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

## 4. Exposure scenario 4: Use by professional worker - Professional use as fertilizer-outdoor

### Sector of use:

SU 1, Agriculture, forestry, fishery

Environment contributing scenario(s):	
Professional use as fertilizer	ERC 8d
Worker contributing scenario(s):	
Professional mixing and blending of the fertilizer	PROC 5
Professional spraying	PROC 11
Charging/discharging in non dedicated facilities	PROC 8a
Charging/discharging in dedicated facilities	PROC 8b
Charging/discharging in small containers	PROC 9

### 4.1. Environmental contributing scenario 1: Professional use as fertilizer

#### 4.1.1. Conditions of use

Amount used, frequency and duration of use (or from service life)
• Daily wide dispersive use: $\leq 2.75E-4$ tonnes/day
• Percentage of tonnage used at regional scale: = 10 %
Conditions and measures related to sewage treatment plant
• Municipal STP: Yes [Effectiveness Water: 0.013%]
• Discharge rate of STP: $\geq 2E3$ m <sup>3</sup> /d
• Application of the STP sludge on agricultural soil: Yes
Conditions and measures related to treatment of waste (including article waste)
• Particular considerations on the waste treatment operations: No (low risk) (ERC based assessment demonstrating control of risk with default conditions. Low risk assumed for waste life stage. Waste disposal according to national/local legislation is sufficient.)
Other conditions affecting environmental exposure
• Receiving surface water flow rate: $\geq 1.8E4$ m <sup>3</sup> /d

#### 4.1.2. Releases

The local releases to the environment are reported in the following table.

#### Local releases to the environment

Release	Release factor estimation method	Explanation / Justification
Water	ERC based	Initial release factor: 100% Final release factor: 100% Local release rate: 0.275 kg/day
Air	ERC based	Initial release factor: 100% Final release factor: 100%
Soil	ERC based	Final release factor: 20%

#### 4.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for the environment

Protection target	Exposure concentration	Risk characterisation
Freshwater	Local PEC: 0.018 mg/L	RCR = 0.134
Sediment (freshwater)	Local PEC: 0.068 mg/kg dw	RCR = 0.582
Marine water	Local PEC: 0.002 mg/L	RCR = 0.134
Sediment (marine water)	Local PEC: 0.007 mg/kg dw	RCR = 0.581
Sewage treatment plant	Local PEC: 0.138 mg/L	RCR < 0.01
Agricultural soil	Local PEC: 8.337E-4 mg/kg dw	RCR < 0.01
Man via Environment - Inhalation	Local PEC: 1.084E-13 mg/m <sup>3</sup>	RCR < 0.01
Man via Environment - Oral	Exposure via food consumption: 6.282E-4 mg/kg bw/day	RCR < 0.01
Man via environment - combined routes		RCR < 0.01

**Contribution to oral intake for man via the environment from local contribution**

Type of food	Estimated daily dose	Concentration in food
Drinking water	5.258E-4 mg/kg bw/day	0.018 mg/L
Fish	1.512E-5 mg/kg bw/day	0.009 mg/kg ww
Leaf crops	6.052E-5 mg/kg bw/day	0.004 mg/kg ww
Root crops	2.674E-5 mg/kg bw/day	0.005 mg/kg ww
Meat	4.247E-9 mg/kg bw/day	9.877E-7 mg/kg ww
Milk	7.915E-8 mg/kg bw/day	9.877E-6 mg/kg ww

**Conclusion on risk characterisation**

The risk is controlled

**4.2. Worker contributing scenario 1: Professional mixing and blending of the fertilizer (PROC 5)**

**4.2.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• Containment: No	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3



	Method
<b>Other conditions affecting workers exposure</b>	
• Place of use: Outdoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

#### 4.2.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.21 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.052

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### 4.3. Worker contributing scenario 2: Professional spraying (PROC 11)

#### 4.3.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• Containment: No	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: Yes (Respirator with APF of 10) [Effectiveness Inhal: 90%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Outdoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands and upper wrists (1500 cm <sup>2</sup> )	TRA Worker v3

#### 4.3.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

##### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>21.01 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.51
Dermal, systemic, long-term	<b>21.43 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.363
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.873

##### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves and respiratory protection is recommended for prolonged exposure times

#### 4.4. Worker contributing scenario 3: Charging/discharging in non dedicated facilities (PROC 8a)

##### 4.4.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• Containment: No	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Outdoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

##### 4.4.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

##### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.21 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.052

#### **Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

### **4.5. Worker contributing scenario 4: Charging/discharging in dedicated facilities (PROC 8b)**

#### **4.5.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Outdoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

#### **4.5.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### **Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.21 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>2.742 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.046
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.052

#### **Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

#### 4.6. Worker contributing scenario 5: Charging/discharging in small containers (PROC 9)

##### 4.6.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: >25%	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 4 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Occupational Health and Safety Management System: Basic	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: Yes (chemically resistant gloves conforming to EN374) [Effectiveness Dermal: 80%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Outdoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

##### 4.6.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

##### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.21 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>1.372 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.023
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.028

##### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The use of gloves is recommended for prolonged exposure times

## 5. Exposure scenario 5: Consumer Use - Consumer Use as fertilizer-indoor

<b>Environment contributing scenario(s):</b>	
Consumer Use as fertilizer	ERC 8a
<b>Consumer contributing scenario(s):</b>	
Consumer use as fertilizer	PC 12

### 5.1. Environmental contributing scenario 1: Consumer Use as fertilizer

#### 5.1.1. Conditions of use

<b>Amount used, frequency and duration of use (or from service life)</b>
• Daily wide dispersive use: $\leq 2.75E-6$ tonnes/day
• Percentage of tonnage used at regional scale: = 10 %
<b>Conditions and measures related to treatment of waste (including article waste)</b>
• Particular considerations on the waste treatment operations: No (low risk) (ERC based assessment demonstrating control of risk with default conditions. Low risk assumed for waste life stage. Waste disposal according to national/local legislation is sufficient.)
<b>Other conditions affecting environmental exposure</b>
• Municipal STP: Yes [Effectiveness Water: 0.013%]
• Discharge rate of STP: $\geq 2E3$ m <sup>3</sup> /d
• Application of the STP sludge on agricultural soil: Yes
• Receiving surface water flow rate: $\geq 1.8E4$ m <sup>3</sup> /d

#### 5.1.2. Releases

The local releases to the environment are reported in the following table.

#### Local releases to the environment

Release	Release factor estimation method	Explanation / Justification
Water	ERC based	Initial release factor: 100% Final release factor: 100% Local release rate: 0.003 kg/day
Air	ERC based	Initial release factor: 100% Final release factor: 100%
Soil	ERC based	Final release factor: 0%

#### 5.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for the environment

Protection target	Exposure concentration	Risk characterisation
Freshwater	Local PEC: 0.005 mg/L	RCR = 0.035
Sediment (freshwater)	Local PEC: 0.018 mg/kg dw	RCR = 0.152
Marine water	Local PEC: 4.749E-4 mg/L	RCR = 0.035
Sediment (marine water)	Local PEC: 0.002 mg/kg dw	RCR = 0.15
Sewage treatment plant	Local PEC: 0.001 mg/L	RCR < 0.01

Protection target	Exposure concentration	Risk characterisation
Agricultural soil	<b>Local PEC:</b> 7.705E-4 mg/kg dw	RCR < 0.01
Man via Environment - Inhalation	<b>Local PEC:</b> 1.084E-13 mg/m <sup>3</sup>	RCR < 0.01
Man via Environment - Oral	<b>Exposure via food consumption:</b> 2.311E-4 mg/kg bw/day	RCR < 0.01
Man via environment - combined routes		RCR < 0.01

**Contribution to oral intake for man via the environment from local contribution**

Type of food	Estimated daily dose	Concentration in food
Drinking water	1.435E-4 mg/kg bw/day	0.005 mg/L
Fish	3.936E-6 mg/kg bw/day	0.002 mg/kg ww
Leaf crops	5.802E-5 mg/kg bw/day	0.003 mg/kg ww
Root crops	2.563E-5 mg/kg bw/day	0.005 mg/kg ww
Meat	1.726E-9 mg/kg bw/day	4.014E-7 mg/kg ww
Milk	3.217E-8 mg/kg bw/day	4.014E-6 mg/kg ww

**Conclusion on risk characterisation**

The risk is controlled

**5.2. Consumer contributing scenario 1: Consumer use as fertilizer (PC 12)**

**5.2.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Product/Article subcategory: Lawn and garden preparations	TRA Consumer v3
• Concentration of substance in mixture: = 0.5 g/g	TRA Consumer v3
• Negligible release to air expected: Yes	TRA Consumer v3
<b>Other conditions affecting consumers exposure</b>	
• Body parts potentially exposed: Hands	TRA Consumer v3
• Dermal transfer factor: = 0.1	TRA Consumer v3
• Oral transfer factor: = 0.01 <i>No oral exposure is expected during use of the product. If for some reason an indirect exposure is present, it can be considered an occasional exposure, since fertilizer application for a consumer is generally performed twice a year.</i>	TRA Consumer v3

**5.2.2. Exposure and risks for consumers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for consumers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0 mg/m<sup>3</sup></b> (TRA Consumer v3)	RCR < 0.01

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<b>Route of exposure and type of effects</b>	<b>Exposure concentration</b>	<b>Risk characterisation</b>
Dermal, systemic, long-term	<b>7.146 mg/kg bw/day</b> (TRA Consumer v3)	RCR = 0.246
Eye, local		Qualitative (see below)
Oral, systemic, long-term	<b>0.15 mg/kg bw/day</b> (TRA Consumer v3)	RCR = 0.052
Combined routes, systemic, long-term		RCR = 0.298

**Conclusion on risk characterisation**

Since the substance is classified as slight irritant to the eyes, the use of glasses is recommended. In case of exposure, rinse with abundant water.

No risk is expected in common conditions of use

## 6. Exposure scenario 6: Consumer Use - Consumer Use as fertilizer-outdoor

<b>Environment contributing scenario(s):</b>	
Consumer Use as fertilizer	ERC 8d, ERC 8a
<b>Consumer contributing scenario(s):</b>	
Consumer use as fertilizer	PC 12

### 6.1. Environmental contributing scenario 1: Consumer Use as fertilizer

#### 6.1.1. Conditions of use

<b>Amount used, frequency and duration of use (or from service life)</b>
• Daily wide dispersive use: $\leq 2.75E-6$ tonnes/day
• Percentage of tonnage used at regional scale: = 10 %
<b>Conditions and measures related to treatment of waste (including article waste)</b>
• Particular considerations on the waste treatment operations: No (low risk) (ERC based assessment demonstrating control of risk with default conditions. Low risk assumed for waste life stage. Waste disposal according to national/local legislation is sufficient.)
<b>Other conditions affecting environmental exposure</b>
• Municipal STP: Yes [Effectiveness Water: 0.013%]
• Discharge rate of STP: $\geq 2E3$ m <sup>3</sup> /d
• Application of the STP sludge on agricultural soil: Yes
• Receiving surface water flow rate: $\geq 1.8E4$ m <sup>3</sup> /d

#### 6.1.2. Releases

The local releases to the environment are reported in the following table.

#### Local releases to the environment

Release	Release factor estimation method	Explanation / Justification
Water	ERC based	Initial release factor: 100% Final release factor: 100% Local release rate: 0.003 kg/day
Air	ERC based	Initial release factor: 100% Final release factor: 100%
Soil	ERC based	Final release factor: 20%

#### 6.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for the environment

Protection target	Exposure concentration	Risk characterisation
Freshwater	Local PEC: 0.005 mg/L	RCR = 0.035
Sediment (freshwater)	Local PEC: 0.018 mg/kg dw	RCR = 0.152
Marine water	Local PEC: 4.749E-4 mg/L	RCR = 0.035
Sediment (marine water)	Local PEC: 0.002 mg/kg dw	RCR = 0.15
Sewage treatment plant	Local PEC: 0.001 mg/L	RCR < 0.01



Protection target	Exposure concentration	Risk characterisation
Agricultural soil	<b>Local PEC:</b> 7.705E-4 mg/kg dw	RCR < 0.01
Man via Environment - Inhalation	<b>Local PEC:</b> 1.084E-13 mg/m <sup>3</sup>	RCR < 0.01
Man via Environment - Oral	<b>Exposure via food consumption:</b> 2.311E-4 mg/kg bw/day	RCR < 0.01
Man via environment - combined routes		RCR < 0.01

**Contribution to oral intake for man via the environment from local contribution**

Type of food	Estimated daily dose	Concentration in food
Drinking water	1.435E-4 mg/kg bw/day	0.005 mg/L
Fish	3.936E-6 mg/kg bw/day	0.002 mg/kg ww
Leaf crops	5.802E-5 mg/kg bw/day	0.003 mg/kg ww
Root crops	2.563E-5 mg/kg bw/day	0.005 mg/kg ww
Meat	1.726E-9 mg/kg bw/day	4.014E-7 mg/kg ww
Milk	3.217E-8 mg/kg bw/day	4.014E-6 mg/kg ww

**Conclusion on risk characterisation**

The risk is controlled

**6.2. Consumer contributing scenario 1: Consumer use as fertilizer (PC 12)**

**6.2.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Product/Article subcategory: Lawn and garden preparations	TRA Consumer v3
• Concentration of substance in mixture: = 0.5 g/g	TRA Consumer v3
• Negligible release to air expected: Yes	TRA Consumer v3
<b>Other conditions affecting consumers exposure</b>	
• Body parts potentially exposed: Hands	TRA Consumer v3
• Dermal transfer factor: = 0.1	TRA Consumer v3
• Oral transfer factor: = 0.01 <i>No oral exposure is expected during use of the product. If for some reason an indirect exposure is present, it can be considered an occasional exposure, since fertilizer application for a consumer is generally performed twice a year.</i>	TRA Consumer v3

**6.2.2. Exposure and risks for consumers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for consumers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0 mg/m<sup>3</sup></b> (TRA Consumer v3)	RCR < 0.01

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Route of exposure and type of effects	Exposure concentration	Risk characterisation
Dermal, systemic, long-term	<b>7.146 mg/kg bw/day</b> (TRA Consumer v3)	RCR = 0.246
Eye, local		Qualitative (see below)
Oral, systemic, long-term	<b>0.15 mg/kg bw/day</b> (TRA Consumer v3)	RCR = 0.052
Combined routes, systemic, long-term		RCR = 0.298

### **Conclusion on risk characterisation**

Since the substance is classified as slight irritant to the eyes, the use of glasses is recommended. In case of exposure, rinse with abundant water.

No risk is expected in common conditions of use

## 7. Exposure scenario 7: Use at industrial site - Industrial use as intermediate

### Sector of use:

SU 9, Manufacture of fine chemicals

Environment contributing scenario(s):	
Industrial use as intermediate	ERC 6a
Worker contributing scenario(s):	
Industrial use in closed process, no exposure	PROC 1
Industrial use in closed continuous process with occasional exposure	PROC 2
Industrial use in closed batch process	PROC 3
Industrial use in batch process with opportunity for exposure	PROC 4
Charging/discharging in non dedicated facilities	PROC 8a
Charging/discharging in dedicated facilities	PROC 8b
Charging/discharging in small containers	PROC 9
Sampling	PROC 15

### 7.1. Environmental contributing scenario 1: Industrial use as intermediate

#### 7.1.1. Conditions of use

Amount used, frequency and duration of use (or from service life)
• Daily use at site: <= 10 tonnes/day
• Annual use at a site: <= 200 tonnes/year
• Percentage of tonnage used at regional scale: = 100 %
Conditions and measures related to sewage treatment plant
• Municipal STP: Yes [Effectiveness Water: 0.013%]
• Discharge rate of STP: >= 2E3 m3/d
• Application of the STP sludge on agricultural soil: Yes
Conditions and measures related to treatment of waste (including article waste)
• Particular considerations on the waste treatment operations: No (low risk) (ERC based assessment demonstrating control of risk with default conditions. Low risk assumed for waste life stage. Waste disposal according to national/local legislation is sufficient.)
Other conditions affecting environmental exposure
• Receiving surface water flow rate: >= 1.8E4 m3/d

#### 7.1.2. Releases

The local releases to the environment are reported in the following table.

#### Local releases to the environment

Release	Release factor estimation method	Explanation / Justification
Water	Release factor	<b>Initial release factor:</b> 0.001% <b>Final release factor:</b> 0.001% <b>Local release rate:</b> 0.1 kg/day
Air	Release factor	<b>Initial release factor:</b> 0%

Release	Release factor estimation method	Explanation / Justification
		<b>Final release factor: 0%</b> <b>Local release rate: 0 kg/day</b>
<b>Soil</b>	ERC based	<b>Final release factor: 0.1%</b>

### 7.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for the environment

Protection target	Exposure concentration	Risk characterisation
Freshwater	<b>Local PEC: 0.01 mg/L</b>	RCR = 0.07
Sediment (freshwater)	<b>Local PEC: 0.036 mg/kg dw</b>	RCR = 0.305
Marine water	<b>Local PEC: 9.611E-4 mg/L</b>	RCR = 0.07
Sediment (marine water)	<b>Local PEC: 0.004 mg/kg dw</b>	RCR = 0.304
Sewage treatment plant	<b>Local PEC: 0.05 mg/L</b>	RCR < 0.01
Agricultural soil	<b>Local PEC: 7.931E-4 mg/kg dw</b>	RCR < 0.01
Man via Environment - Inhalation	<b>Local PEC: 1.084E-13 mg/m<sup>3</sup></b>	RCR < 0.01
Man via Environment - Oral	<b>Exposure via food consumption:</b> <b>2.348E-4 mg/kg bw/day</b>	RCR < 0.01
Man via environment - combined routes		RCR < 0.01

#### Contribution to oral intake for man via the environment from local contribution

Type of food	Estimated daily dose	Concentration in food
Drinking water	1.457E-4 mg/kg bw/day	0.005 mg/L
Fish	4.048E-6 mg/kg bw/day	0.002 mg/kg ww
Leaf crops	5.892E-5 mg/kg bw/day	0.003 mg/kg ww
Root crops	2.603E-5 mg/kg bw/day	0.005 mg/kg ww
Meat	1.743E-9 mg/kg bw/day	4.054E-7 mg/kg ww
Milk	3.249E-8 mg/kg bw/day	4.054E-6 mg/kg ww

#### Conclusion on risk characterisation

Production is made in dedicated facilities, where the substance is discharged directly in the final container and no cleaning/washing of the reaction tank/vessel is made between different batches.

Water coming from the plant are not directly discharged in the municipal net.

In those conditions environmental risk is controlled

## 7.2. Worker contributing scenario 1: Industrial use in closed process, no exposure (PROC 1)

### 7.2.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	

	Method
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Closed system (minimal contact during routine operations)	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: One hand face only (240 cm <sup>2</sup> )	TRA Worker v3

#### 7.2.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.05 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR < 0.01
Dermal, systemic, long-term	<b>0.034 mg/kg bw/day</b> (TRA Worker v3)	RCR < 0.01
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR < 0.01

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

### 7.3. Worker contributing scenario 2: Industrial use in closed continuous process with occasional exposure (PROC 2)

#### 7.3.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3

	Method
• Containment: Closed continuous process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

### 7.3.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>1.37 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.023
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.035

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

### 7.4. Worker contributing scenario 3: Industrial use in closed batch process (PROC 3)

#### 7.4.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Closed batch process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	

	Method
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): <= 40 °C	TRA Worker v3
• Skin surface potentially exposed: One hand face only (240 cm <sup>2</sup> )	TRA Worker v3

#### 7.4.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>0.69 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.012
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.024

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

### 7.5. Worker contributing scenario 4: Industrial use in batch process with opportunity for exposure (PROC 4)

#### 7.5.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3

	Method
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

#### 7.5.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### Exposure concentrations and risks for workers

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>6.86 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.116
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.128

#### Conclusion on risk characterisation

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

#### 7.6. Worker contributing scenario 5: Charging/discharging in non dedicated facilities (PROC 8a)

##### 7.6.1. Conditions of use

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

##### 7.6.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.



**Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>13.71 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.232
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.245

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

**7.7. Worker contributing scenario 6: Charging/discharging in dedicated facilities (PROC 8b)**

**7.7.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands (960 cm <sup>2</sup> )	TRA Worker v3

**7.7.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Dermal, systemic, long-term	<b>13.71 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.232
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.245

#### **Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

### **7.8. Worker contributing scenario 7: Charging/discharging in small containers (PROC 9)**

#### **7.8.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: Semi-closed process with occasional controlled exposure	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: Two hands face (480 cm <sup>2</sup> )	TRA Worker v3

#### **7.8.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

#### **Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>6.86 mg/kg bw/day</b> (TRA Worker v3)	RCR = 0.116
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.128

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

**7.9. Worker contributing scenario 8: Sampling (PROC 15)**

**7.9.1. Conditions of use**

	Method
<b>Product (article) characteristics</b>	
• Concentration of substance in mixture: Substance as such	TRA Worker v3
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>	
• Duration of activity: < 8 hours	TRA Worker v3
<b>Technical and organisational conditions and measures</b>	
• General ventilation: Basic general ventilation (1-3 air changes per hour)	TRA Worker v3
• Containment: No	TRA Worker v3
• Local exhaust ventilation: no [Effectiveness Inhal: 0%]	TRA Worker v3
• Occupational Health and Safety Management System: Advanced	TRA Worker v3
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
• Dermal Protection: No [Effectiveness Dermal: 0%]	TRA Worker v3
• Respiratory Protection: No [Effectiveness Inhal: 0%]	TRA Worker v3
<b>Other conditions affecting workers exposure</b>	
• Place of use: Indoor	TRA Worker v3
• Process temperature (for liquid): ≤ 40 °C	TRA Worker v3
• Skin surface potentially exposed: One hand face only (240 cm <sup>2</sup> )	TRA Worker v3

**7.9.2. Exposure and risks for workers**

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

**Exposure concentrations and risks for workers**

Route of exposure and type of effects	Exposure concentration	Risk characterisation
Inhalation, systemic, long-term	<b>0.5 mg/m<sup>3</sup></b> (TRA Worker v3)	RCR = 0.012
Dermal, systemic, long-term	<b>0.34 mg/kg bw/day</b> (TRA Worker v3)	RCR < 0.01
Eye, local		Qualitative (see below)
Combined routes, systemic, long-term		RCR = 0.018

**Conclusion on risk characterisation**

The substance is classified as slight irritant for the eyes. Use of glasses is recommended during manual operations

The risk is controlled in the common conditions of use

## **AII. II - RISK CHARACTERISATION RELATED TO COMBINED EXPOSURE**

### **1. Human health**

#### **1.1. Workers**

Not relevant

#### **1.2. Consumer**

Not relevant

### **2. Environment (combined for all emission sources)**

#### **2.1. All uses (regional scale)**

##### **2.1.1. Total releases**

The total releases to the environment from all the exposure scenarios covered are presented in the table below. This is the sum of the releases to the environments from all exposure scenarios addressed.

**Total releases to the environment per year from all life cycle stages:**

<b>Release route</b>	<b>Total releases per year</b>
Water	7.1E5 kg/year
Air	7.1E5 kg/year
Soil	1.014E5 kg/year

##### **2.1.2. Regional exposure**

###### **Environment**

The regional predicted environmental concentration (PEC regional) and the related risk characterisation ratios when a PNEC is available are presented in the table below.

The PEC regional have been estimated with EUSES.

###### **Predicted regional exposure concentrations (Regional PEC)**

<b>Protection target</b>	<b>Regional PEC</b>	<b>RCR</b>
Freshwater	0.005 mg/L	0.034
Sediment (freshwater)	0.015 mg/kg dw	0.128
Marine water	4.612E-4 mg/L	0.034
Sediment (marine water)	0.002 mg/kg dw	0.129
Air	1.084E-13 mg/m <sup>3</sup>	
Agricultural soil	7.699E-4 mg/kg dw	< 0.01

###### **Man via environment**

The exposure to man via the environment from regional exposure and the related risk characterisation ratios are presented in the table below. The exposure concentration via inhalation is equal to the PEC air.

###### **Regional exposure to man via the environment**

<b>Route</b>	<b>Regional exposure</b>	<b>RCR</b>
Inhalation	1.084E-13 mg/m <sup>3</sup>	< 0.01
Oral	2.31E-4 mg/kg bw/day	< 0.01
Combined routes		< 0.01

### **2.2. Local exposure due to all wide dispersive uses**

###### **Environment**

The predicted local environmental concentrations (PEC local) based on the releases from all widespread uses are reported in the table below together with the risk characterisation ratio when a PNEC is available. Those exposure estimates have been obtained with EUSES.

**Predicted environmental concentration and risk characterisation ratio for the environment due to all wide dispersive uses**

Protection target	PEC local due to all wide dispersive uses	RCR
Freshwater	0.024 mg/L	0.177
Sediment (freshwater)	0.089 mg/kg dw	0.765
Marine water	0.002 mg/L	0.176
Sediment (marine water)	0.009 mg/kg dw	0.763
Sewage treatment plant	0.195 mg/L	< 0.01
Agricultural soil	8.604E-4 mg/kg dw	< 0.01

**Man via environment**

The exposure to man via the environment based on the releases from all widespread uses are reported in the table below together with the risk characterisation ratio when a DNEL is available. Those exposure estimates have been obtained with EUSES.

**Exposure and risk characterisation ratio for man via the environment due to all wide dispersive uses**

Protection target	Exposure concentration due to all wide dispersive uses	RCR
Inhalation	1.084E-13 mg/m <sup>3</sup>	< 0.01
Oral	7.995E-4 mg/kg bw/day	< 0.01
Combined routes		< 0.01

**2.3. Local exposure due to combined uses at a site**

Not relevant