1. AINE/SEGU NING ÄRIÜHINGU/ETTEVÕTJA IDENTIFITSEERIMINE

1.1 Tootetähis

1.1.1 Toote Kaubanduslik Nimetus

Diesel fuel (export)

1.1.2 Toote kood

(ID 13310)

REACH registreerimisnumber

01-2119484664-27-0012

Kemikaali nimetus Fuels, diesel

1.2 Aine või segu asjaomased kindlaksmääratud kasutusalad ning kasutusalad, mida ei soovitata

1.2.1 Soovitatud kasutamine

Aine jaotamine
Kütusena kasutamine
Teedeehituse ja ehituse kasutusalad

Vt jaotisest 16 kindlaksmääratud kasutusalade PROC/SU/ERC koode.

1.3 Andmed ohutuskaardi tarnija kohta

1.3.1 Levitaja

	Neste Oyj
Aadress (tänav)	Keilaranta 21
Posti kood ja postkontor	Espoo Soome
Posti kood ja postkontor	P.O.B. 95 FIN-00095 NESTE Soome
Telefon	+358-10 45811
Business ID	1852302-9
Email	products.oil@neste.com (Oil Product Information)

1.4 Hädaabitelefoni number

1.4.1 Telefoninumber, nimi ja aadress.

+358-9-471 977, +358-9-4711, Mürgistuste Infokeskus
PL 340 (Tukholmankatu 17), 00029 HUS (Helsinki)

2. OHTUDE IDENTIFITSEERIMINE

2.1 Aine või segu klassifitseerimine

1272/2008 (CLP)

Flam. Liq. 3, H226
Asp. Tox. 1, H304
Skin Irrit. 2, H315
Acute Tox. 4, H332
Carc. 2, H351
STOT RE 2, H373
Aquatic Chronic 2, H411

67/548/EEC - 1999/45/EC

Xn, N; R20-38-40-65-51/53

2.2 Märgistuselemendid

1272/2008 (CLP)

GHS09 - GHS08 - GHS07 - GHS02

Tunnussõna **Ettevaatust**

Ohuteade

H226	Tuleohtlik vedelik ja aur.
H304	Allaneelamisel või hingamisteedesse sattumisel võib olla surmav.
H315	Põhjustab nahaärritust.
H332	Sissehingamisel kahjulik.
H351	Arvatavasti põhjustab vähktõbe.
H373	Võib kahjustada elundeid pikaajalisel või korduval kokkupuutel.
H411	Mürgine veeorganismidele, pikaajaline toime.

Ettevatulik teade

P210	Hoida eemal soojusallikast/sädemetest/leekidest/kuumadest pindadest. - Mitte suitsetada.
P261	Vältida auru aine sissehingamist.
P301+P310	ALLANEELAMISE KORRAL: võtta viivitamata ühendust MÜRGISTUSTEABEKESKUSE või arstiga.
P331	MITTE kutsuda esile oksendamist.
P302+P352	NAHALE SATTUMISE KORRAL: pesta rohke vee ja seebiga.
P273	Vältida sattumist keskkonda.

2.3 Muud ohud

Aurustub aeglaselt. Õliudu võib ärritab silmi ja hingamiselundeid.
Pinnase ja põhjavee saastamise oht.

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3. KOOSTIS/TEAVE KOOSTISAINETE KOHTA

3.2 Segud

Ohtlikud komponendid

CAS/EC-number	Aine keemiline nimetus	Kontsentratsioon	Klassifikatsioon
68334-30-5 269-822-7 01-2119484664-27-0012	Kütused, diisel	Umbes 100 %	CLP: Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Acute Tox. 4, H332 Carc. 2, H351 STOT RE 2, H373 Aquatic Chronic 2, H411 DSD-DPD: Xn; Xi; R20-38-65, Carc Cat. 3; R40, N; R51/53

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3.3 Muu teave

Naftast valmistatud toote ja lisandite eeltöötlus.
Sisaldab petrooleumi vooge ja otsejooksu ning hüdrokrakitud gaasiõli vooge.
Registreerimise number: vaata osa 1.1.2

4. ESMAABIMEETMED

4.1 Esmaabimeetmete kirjeldus

Enne kannatanute päästmist eraldage ala võimalikest süüteallikatest, sh lülitage välja elektritoide.

4.1.2 Sissehingamine

Aine sissehingamise korral viia kannatanu värske õhu kätte. Konsulteerida arstiga.

4.1.3 Kokkupuude nahaga

Kiiresti pesta seebi ja rohke veega, eemaldada saastunud riided ja jalanõud. Kui naha ärritus püsib helistada arstile.

4.1.4 Pritsmed silma

Loputatakse kohe rohke veega, ka silmalaugude alt. Ärrituse, hägusa nägemise või paistetuse tekkimise ja püsimise korral pöörduge kohe erialaarsti poole.

4.1.5 Allaneelamine

EI TOHI ESILE KUTSUDA OKSENDAMIST. Allaneelamise korral eeldage alati, et toimus ka sissehingamine. Pöörduda arsti poole (aine kopsu sattumise oht, eriti kui tuntakse iiveldust või ärritust).

4.2 Olulisemad akuutsed ja hilisemad sümptomid ning mõju

Sissehingamisel kahjulik. Kui toode satub kopsu, võib see põhjustada eluohtliku keemilise kopsupõletiku. Vedela toote pritsmed ärritavad silmi ja nahka. Õliudu võib ärritab silmi ja hingamiselundeid.

4.3 Märge igasuguse vältimatu meditsiiniabi ja erikohtlemise vajalikkuse kohta

Kui toode satub kopsu, võib see põhjustada eluohtliku keemilise kopsupõletiku.

5. TULEKUSTUTUSMEETMED

5.1 Esmaabimeetmete kirjeldus

5.1.1 Sobivad kustutusvahendid

Kuiv pulber, süsinikdioksiid. Liiv. Tugeva vahu ja vee udu professionaalsetele tuletõrjujatele.

5.1.2 Sobimatud tulekustutusvahendid

Survevesi

5.2 Olulisemad akuutsed ja hilisemad sümptomid ning mõju

Tuleohtlik vedelik ja aur. Plahvatusohu suurenemine, kui rõhk tõused toodet sisaldavates vaatides või mahutites nende kuumenedes tulekahju ajal. Tugeva kuumutamise või tule korral võib erituda süsinikmonooksiidi ja teisi mittetäieliku põlemise tagajärjel tekkivaid produkte. Aine ujub ja võib vee pinnal uuesti süttida.

5.3 Märge igasuguse vältimatu meditsiiniabi ja erikohtlemise vajalikkuse kohta

Lahtise tule läheduses olevaid tootenõusid ja -mahuteid jahutatakse piisavalt ohutust kaugusest veejoaga. Vältida tulekustutusveega pinnavee ja põhjavee saastamist.

5.4 Erijuhised

Soovitused tulekustutuseks: Suruõhu hingamisseade ja täielik kaitseriietus.

6. MEETMED JUHUSLIKU SATTUMISE KORRAL KESKKONDA

6.1 Isikukaitsemeetmed, kaitsevahendid ja toimimine hädaolukorras

Saastatud piirkonnas olevad isikud evakueeritakse tuulepealsele poolele. Tagada piisav ventilatsioon, eriti oluline on see kinnistes ruumides. Aur on õhust raskem ja levib maapinnal kohal laiali. Suurte pritsmete korral hoiatage allatuulealadel viibijaid. Vältida õliudu kokkupuudet nahaga ja sissehingamist. Kõikide tööoperatsioonide puhul tuleb kasutada piisavaid isikukaitsevahendeid.
Eemaldada kõik süttimisallikad. Kasutada meetmeid elektrostaatilise välja tekkimise vastu. Võimaluse korral võib suured pritsmed tuleohu vähendamiseks ettevaatlikult vahuga katta

6.2 Keskkonnakaitse meetmed

Saaste levimist püütakse piirata ja takistatakse toote levimist keskkonda. Vedel toode kogutakse kokku enne selle levimist kanalisatsiooni, pinnasesse ja vette.Keskkonnasaastest tuleb kohe teatada kohalikele ametivõimudele. Pinnase ja põhjavee saastamise oht.

6.3 Tõkestamis- ning puhastamismeetodid ja -vahendid

Kohe alustada vedela toote kokkukogumist ja saastatud pinnase puhastamist. Koguge lahtine toode kokku sobivate vahendite abil. Väikeseid koguseid võib lasta imenduda mittesüttiva absorbeerivasse ainesse. Tähelepanu peab pöörama toote tekitatud tulekahjuohule ning ohule inimeste tervisele.
Võimaluse korral tuleks vabasse vette paiskunud suuri pritsmeid piirata ujuvpiirete või muude mehaaniliste vahenditega. Hajutusaine kasutamine peab olema eksperdi poolt soovitatud ja vajaduse korral kohalike võimude poolt lubatud.

6.4 Viited muudele jagudele

Kaitsemeetmed on 8. Osas. Toote jäätmed peab kõrvaldama vastavalt punktile 13.

7. KÄITLEMINE JA LADUSTAMINE

7.1 Ohutu käitlemise tagamiseks vajalikud ettevaatusabinõud

Toodet tuleb käidelda suletud süsteemides või korraldada piisav ventilatsioon. Vältida tuleb aurude sissehingamist ja kokkupuudet nahaga. Vajadusel kasutada isikukaitsevahendeid. Kasutamisel mitte süüa, juua ja suitsetada. Käsi pesta töövaheaja alguses ja tööpäeva lõpus. Tankimise ajal järgida spetsiaalseid juhiseid (hapniku väljatõrjumise ja süsivesinike oht). Kergete süsivesinike aurud võivad koguneda konteinerite vabasse ruumi. Ärge kasutage täitmiseks, tühjendamiseks ega käitlemiseks suruõhku.

Hoida eemal tulest, sädemetest ja kuumdest pindadest. Isoleerida süttimisallikatest. Takistada (näiteks maanduse abil) staatilise elektri poolt põhjustatud sädemete tekkimise võimalus. Toode on õhust raskem ning lekke korral võib selle aur koguneda madalatesse ja piiratud ruumidesse, kus võib kergesti juhuslikult süttida.

7.2 Ohutu ladustamise tingimused, sealhulgas sobimatud ladustamistingimused

Tuleohtlike vedelike säilitamiseks sobilikes mahutites ja hoidlates. Kaitsta päikesevalguse eest. Turvameetmete abil takistada toote võmalik sattumine kanalisatsiooni, maapinda või vette. Kogumiskaevude ja kanalisatsioonivõrkude ehitamisel ning toote laadimise ja mahalaadimise kohtades pinnase katte valikul arvestatakse mistahes lekke võimalusega.

Säilitada vastavalt kohalikele õigusaktide nõuetele. Hoida korralikult märgistatud taaras. Väikesed tootekogused säilitatakse süsivesinikekindlates, hermeetiliselt suletud ja sildiga varustatud anumates. Konteineriteks ja nende voodriks soovitatakse kasutada süsinikuvaest terast, samuti roostevaba terast. Mõned sünteetilised materjalid ei sobi oma tehniliste omaduste ja kasutusotstarbe tõttu konteineriteks või nende voodriks.

7.3 Erikasutus

Ei ole teada.

8. KOKKUPUUTE OHJAMINE/ISIKUKAITSE

8.1 Kontrolliparameetrid

8.1.1 Piirnormid

Õliudu *	5 mg/m³ (8 h) HTP 2011/FIN

8.1.2 Muu piirnormidealane teave

* Töökeskkonnas kokkupuute vältmise järelevalve meetodid: SFS-EN 689, NIOSH Method 5026.
Süsivesinike korral saab rakendada nende eripiirväärtusi.

8.1.4 DNEL

Kütused, diisel:

Töötajad :
Inhalation: 4300 mg/m³ /15min, aerosool (Short-term exposure, systemic effects)
Inhalation: 68 mg/m³ /8h, aerosool, ja kokkupuutel nahaga: 2.9 mg/kg bw /8h (Long-term exposure, systemic effects)

Tarbijad:
Inhalation: 2600 mg/m³ /15min, aerosool (Short-term exposure, systemic effects)
Inhalation: 20 mg/m³ /24h, aerosool, ja kokkupuutel nahaga: 1.3 mg/kg bw /24h (Long-term exposure, systemic effects)

8.1.5 PNEC

Informatsioon ei ole kättesaadav.

8.2 Kontrolliparameetrid

8.2.1 Asjakohane tehniline kontroll

Toodet tuleb käidelda suletud süsteemides või korraldada piisav ventilatsioon. Vajadusel kasutada isikukaitsevahendeid ja/või kohalikku ventilatsiooni. Käsitleda vastavalt tööhügieeni ja -ohutuse heale praktikale. Tankimise ajal järgida spetsiaalseid juhiseid (hapniku väljatõrjumise ja süsivesinike oht).

8.2.2 Individuaalsed kaitsemeetmed

8.2.2.1 Hingamisteede kaitsmine

Filterseade/poolmask. Respiraator (kombineeritud osakeste ja orgaanilise auru filter, tüüp A2/P3). Hingamisteede kaitsevahend võib korraga kasutuses olla maksimaalselt 2 tundi. Hingamisteede kaitsevahendit ei tohi kasutada madala hapnikusisaldusega keskkonnas (< 17 mahu%). Kõrge kontsentratsiooni puhul tuleb kasutada hingamisaparaati (suruõhk või värske õhk). Filtrit tuleb vahetada piisavalt tihti. Standarditele EN 140 ja EN 141 vastavad respiraatorid.

8.2.2.2 Käte kaitsmine

Kaitsekindad (nt nitriilist, neopreenist, PVC). Kemikaali tungimise aeg läbi kindamaterjali >480, kaitseklass 6.. Standarditele EN 420 ja EN 374 vastavad kaitsekindad. Kaitsekindaid tuleb vahetada regulaarselt.

8.2.2.3 Silmade/näo kaitsmine

Liibuvad kaitseprillid. Vajadusel kaitsemask.

8.2.2.4 Naha kaitsmine

Kaitseriietus (antistaatiline), vajadusel kemikaalide eest pritsmekindel kaitseriietus.

8.2.3 Kokkupuute ohjamine keskkonnas

Kogumiskaevude ja kanalisatsioonivõrkude ehitamisel ning toote laadimise ja mahalaadimise kohtades pinnase katte valikul arvestatakse mistahes lekke võimalusega.

9. FÜÜSIKALISED JA KEEMILISED OMADUSED

9.1 Teave üldiste füüsikaliste ja keemiliste omaduste kohtat

9.1.1 Välimus
Selge või kollakas vedelik.

9.1.2	**Lõhn**	Õrn süsivesinike lõhn.
9.1.3	**Lõhnalävi**	andmed ei ole kättesaadavad
9.1.4	**pH**	andmed ei ole kättesaadavad
9.1.5	**Sulamis-/külmumispunkt**	Cloud point maksimaalne 0 °C
9.1.6	**Keemise algpunkt ja keemisvahemik**	150...370 °C (EN ISO 3405)
9.1.7	**Leekpunkt**	Miinimum 55°C (EN ISO 2719)
9.1.8	**Aurustumiskiirus**	andmed ei ole kättesaadavad
9.1.10	**Plahvatusomadused**	
9.1.10.1	**Alumine plahvatuspiir**	1 mahu% (hindamine)
9.1.10.2	**Ülemine plahvatuspiir**	6 mahu% (hindamine)
9.1.11	**Aururõhk**	< 1 kPa @ 40 °C
9.1.12	**Auru tihedus**	andmed ei ole kättesaadavad
9.1.13	**Suhteline tihedus**	umbes 0,8...0,85 (15/4 °C; vesi= 1) (EN ISO 12185)
9.1.14	**Lahustuvus(ed)**	
9.1.14.1	**Vees lahustuvus**	Vähelahustuv (< 50 mg/l; 20 °C)
9.1.15	**Jaotustegur (n-oktanool/-vesi)**	log Kow = 3...üle 6.
9.1.16	**Isesüttimistemperatuur**	Umbes 220 °C (hinnang)
9.1.17	**Lagunemistemperatuur**	andmed ei ole kättesaadavad
9.1.18	**Viskoossus**	Kinemaatiline viskoossus max. 4,5 mm²/s (40 °C; vesi= 0,6 mm²/s) (EN ISO 3104).
9.1.19	**Plahvatusohtlikkus**	Ei plahvatus
9.1.20	**Oksüdeerivad omadused**	Ei ole oksüdeeriv.

9.2 Muu teave
Ei ole teada.

10. PÜSIVUS JA REAKTSIOONIVÕIME

10.1 Reaktsioonivõime
Tavapärasel kasutamisel ei toimu ohtlikke reaktsioone.

10.2 Keemiline stabiilsus
Stabiilne kindlate säilitustingimuste korral.

10.3 Ohtlike reaktsioonide võimalikkus
Ei ole teada.

10.4 Tingimused, mida tuleb vältida
Hoida eemal tulest, sädemetest ja kuumdest pindadest.

10.5 Kokkusobimatud materjalid
Oksüdeerivad ühendid .

10.6 Ohtlikud lagusaadused
Ei ole teada ohtlikke laguprodukte.

11. TEAVE TOKSILISUSE KOHTA

11.1 Teave toksikoloogiliste mõjude kohta

11.1.1 Akuutne toksilisus
Sissehingamisel kahjulik.

Kütused, diisel:
LD50/oraalne/ rott > 5000 mg/kg (OECD 401, 420)
LC50/inhalatsioonitest/4 h / rott = = 3.6 - 5.4 mg/L (OECD 403)
LD50/ naha kaudu/ küülik = 4300 mg/kg (OECD 434)

11.1.2 Ärritav ja söövitav
Ärritab nahka. Pikaajaline või korduv kokkupuude põhjustab naha kuivamist ja ärritust. Õliudu võib ärritab silmi ja hingamiselundeid. Allaneelamisel ärritab seedetrakti.

Ohu kategooriad:
Kütused, diisel: Põhjustab nahaärritust. Silmi mitteärritav. (OECD 404, 405).

11.1.3 Sensibiliseerimine
Ei ole tundlikuks muutev. (Kütused, diisel: OECD 406)

11.1.4 Subakuutne, subkrooniline ja krooniline mürgisus
Kütused, diisel:
Arvatavasti põhjustab vähktõbe. Pikaajaline kontakt on põhjustanud katseloomadel (hiir) nahakasvajaid. Toode sisaldab hüdrokrakitud gaasiõli vooge, mis on klassifitseeritud kui kantserogeenid.
In vitro testidega avaldus mutageenne toime, mis ei avaldunud in vivo testidega. (OECD 471, 475)
Ei ole klassifitseeritud loodet kahjustavaks (OECD 414).

11.1.5 Sihtorgani suhtes toksilised – ühekordne kokkupuude
Ei ole teadaolevat toimet.

11.1.6 Sihtorgani suhtes toksilised – korduv kokkupuude
Kütused, diisel: Võib kahjustada elundeid pikaajalisel või korduval kokkupuutel. (OECD 410, 411, 413)

11.1.7 Hingamiskahjustus
Allaneelamisel või hingamisteedesse sattumisel võib olla surmav. Toote sattumine kopsudesse (aspiratsioon) võib põhjustada eluohtliku keemilise kopsupõletiku.

11.1.8 Muu info ägeda mürgituse kohta
Kütused, diisel: Toksikoloogilised andmed põhinevad vastavate toodete või ühenditega tehtud testidel

12. ÖKOLOOGILINE TEAVE

12.1 Toksilisus

12.1.1 Mürgisus vesikeskkonnale

Mürgine veeorganismidele, pikaajaline toime.

Kütused, diisel:
Äge toksilisus veeloomadele
kala: LL50/96h = 21 mg/L, NOEL/96h = 10 mg/L; WAF (OECD 203, EC C.1)
homaar: EL50/48h = 68mg/L; NOEL/48h = 47 mg/L; WAF (OECD 202, EC C.2)
vetikas: EbL/72h = 10 mg/L; NOEL/48h = 3 mg/L; NOEL/72h = 1 mg/L; WAF (OECD 201, EC C.3)

Krooniline toksilisus veeloomadele
kala: NOEL/14d = 0.08 mg/L (QSAR)
homaar: NOEL/21d = 0.2 mg/L (QSAR)

12.1.2 Toksiline teistele organismidel
Micro-organisms (activated sewage sludge):
Kütused, diisel: EL50/40h > 1000 mg/L; NOEL/40h = 3.22 mg/L (QSAR)

12.2 Püsivus ja lagunduvus
12.2.1 Biolagunduvus
Kütused, diisel: Biolagundub. (OECD 301F).

12.2.2 Keemiline lagunemine
Ei hüdrolüüsu vees. Gaasiõli süsivesinikud on samuti fotokeemiliselt lagunevad pinnavees. Lenduvad süsivesinikud on õhukeemiliselt lagunevad.

12.3 Bioakumulatsioon
Võib-olla ladestuv (log Kow > 3).

12.4 Liikuvus pinnases
Toode aurustub aeglaselt pinnaselt ja veest. Vees nõrgalt lahustuv. Toode võib tungida läbi pinnase kuni põhjaveeni. Petrooleumi ja gaasiõli süsivesinikke on võimalik absorbeerida orgaanilistesse materjalidesse pinnases või setetes. Anaeroobses keskkonnas on lagunemine eriti aeglane.

12.5 Püsivate, bioakumuleeruvate ja toksiliste ning väga püsivate ja väga bioakumuleeruvate omaduste hindamine
Valmistis ei sisalda aineid, mis on püsivad, bioakumuleeruvad ja toksilised (PBT). Valmistis ei sisalda aineid, mis on väga püsivad ja väga bioakumuleeruvad (vPvB). (antratseen < 0.1 %)

12.6 Muud kahjulikud mõjud
Toode põhjustab mädanemist ja otsene kontakt põhjustab kahjulikke nähtusid näiteks lindudel ja taimedel. Adsorbeerunud süsivesinike jäägid võivad mõjuda kahjulikult põhjasettekihi elusorganismidele.

13. JÄÄTMEKÄITLUS

13.1 Jäätmetöötlusmeetodid
Toote jäätmeid peab käitlema vastavalt riiklikele määrustele ja kohaliku võimu esindajate soovitustele. Jäätmete käitlemisel tuleb arvesse võtta sellest tingitud ohte ning hoolitseda vajaduse korral turvameetmete, märgistamise ja info edastamise eest.

13.2 Vaikude jäätmed / kasutamata toodang
Tühjad konteinerid võivad sisaldada tuleohtlikke tootejääke. Tühjad anumad võib saata kohalikku prügikäitlemisse.

14. VEONÕUDED

14.1	**ÜRO number (UN number)**	1202
14.2	**ÜRO veose tunnusnimetus**	UN 1202 DIESEL FUEL, 3, III
14.3	**Transpordi ohuklass(id)**	3
14.4	**Pakendirühm**	III

14.5 Keskkonnaohud
MARINE POLLUTANT

14.6 Eriettevaatusabinõud kasutajatele
Tunnelipiirangu kood: D/E

14.7 Transportimine mahtlastina kooskõlas MARPOL 73/78 II lisaga ja IBC koodeksiga
ei ole nõutud

15. REGULEERIVAD ÕIGUSAKTID

15.1 Ainete ja segude suhtes kohaldatavad ohutuse-, tervise- ja keskkonnaalased eeskirjad/ õigusaktid
Kemikaali ohutuskaart on vastavuses EL määruse nr 1907/2006 nõuetega.
Uuendatud määruse (EL) nr 453/2010, määruse täienduse (EÜ) nr 1907/2006 (REACH) kohaselt.

15.2 Kemikaaliohutuse hindamine
Nende kemikaalide kemikaaliohutust hinnatakse.

16. MUU TEAVE

16.1 Lisad, kustutatud teave, muudatused
Paragrahv 12.2: Biodegradatsioon
Paragrahv 14.6: Tunnelipiirangu kood

16.2 Ohutuskaardil kasutatud lühendite ja akronüümide selgitus
CLP = Euroopa Parlamendi ja nõukogu määrus (EÜ) nr 1272/2008, mis käsitleb ainete ja segude klassifitseerimist, märgistamist ja pakendamist
DSD = Nõukogu direktiiv 67/548/EMÜ, ohtlike ainete liigitamist, pakendamist ja märgistamist käsitlevate õigus- ja haldusnormide ühtlustamise kohta
DPD = Euroopa Parlamendi ja nõukogu direktiiv 1999/45/EÜ, ohtlike preparaatide klassifitseerimist, pakendamist ja märgistamist käsitlevate liikmesriikide õigus- ja haldusnormide ühtlustamise kohta

DNEL = Derived No-Effect Level
PNEC = Predicted No-Effect Concentration
WAF = Water Accommodated Fraction
SU = Sector of Use
PROC = Process Category
PC = Product Category
ERC = Environmental Release Category

16.3 Viited kirjandusele ja teabeallikad
Määrused, andmebaas, kirjandus, oma uurimused. Concawe Report No 6/05, 01/54, 11/10, 10/14
Kemikaaliohutuse aruanne: Kütused, diisel; 2010.

16.5 Asjakohaste R-, ohu-, ohutus- ja/või hoiatuslausete loetelu

R20	Kahjulik sissehingamisel.
R38	Ärritab nahka.
R40	Võimalik vähktõve põhjustaja.
R51/53	Mürgine veeorganismidele, võib põhjustada pikaajalist veekeskkonda kahjustavat toimet.
R65	Kahjulik: allaneelamisel võib põhjustada kopsukahjustusi.
R66	Korduv toime võib põhjustada naha kuivust või lõhenemist.
H226	Tuleohtlik vedelik ja aur.
H304	Allaneelamisel või hingamisteedesse sattumisel võib olla surmav.
H315	Põhjustab nahaärritust.
H332	Sissehingamisel kahjulik.
H351	Arvatavasti põhjustab vähktõbe.
H373	Võib kahjustada elundeid pikaajalisel või korduval kokkupuutel.
H411	Mürgine veeorganismidele, pikaajaline toime.

16.7 Kasutuspiirangud

Kindlaksmääratud kasutusalad:

Aine jaotamine, Tööstuslik kasutamine (SU 3; PROC: 1, 2, 3, 4, 8a, 8b, 9, 15; ERC: 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7)
Kütusena kasutamine:
Tööstuslik kasutamine (SU 3; PROC: 1, 2, 3, 8a, 8b, 16; ERC: 7)
ametkondlik kasutus (SU 22; PROC: 1, 2, 3, 8a, 8b, 16; ERC: 9a, 9b)
Tarbijad (SU 21; PC 13; ERC: 9a, 9b)
Teedeehituse ja ehituse kasutusalad, ametkondlik kasutus (SU 22; PROC: 8a, 8b, 9, 10, 11, 13; ERC: 8d, 8f)

ÄRGE IMEGE DIISLIKÜTUST SUUGA.

SECTION 1	**EXPOSURE SCENARIO TITLE**	
Title	**Distribution of Substance - Industrial**	
Use Descriptor	Sector(s) of Use	**SU3**: Industrial
	Process Categories	**PROC 1**: Use in closed process, no likelihood of exposure.
		PROC 2: Use in closed, continuous process with occasional controlled exposure.
		PROC 3: Use in closed batch process (synthesis or formulation).
		PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises.
		PROC 8a: Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at non-dedicated facilities.
		PROC 8b: Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at dedicated facilities.
		PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
		PROC 15: Use as laboratory reagent.
	Environmental Release Categories	**ERC 1**: Manufacture of substances.
		ERC 2: Formulation of preparations.
		ERC 3: Formulation in materials.
		ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles.
		ERC 5: Industrial use resulting in inclusion into or onto a matrix.
		ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates).
		ERC 6b: Industrial use of reactive processing aids.
		ERC 6c: Industrial use of monomers for manufacture of thermoplastics.
		ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.
		ERC 7: Industrial use of sub-stances in closed systems.
	Specific Environmental Release Category	ESVOC SpERC 1.1b.v1
Processes, Tasks and Activities Covered	Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, maintenance and associated laboratory activities.	
SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**	
Section 2.1	**Control of worker exposure**	

Product characteristics	Physical form of product	Liquid.
	Vapour Pressure	Liquid, vapour pressure <0.5 kPa at STP [OC3].
	Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
	Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2].
	Other operational conditions affecting worker exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently [G15]. Assumes a good basic standard of occupational hygiene is implemented [G1].
Contributing Scenarios	**Specific Risk Management Measures and Operational Conditions**	
	General measures applicable to all activities [CS135]	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions [G25].
	General measures (skin irritants) [G19]	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop [E3].
	General exposures (closed systems)[CS15]	Handle substance within a closed system [E47].
	General exposures (open systems) [CS16]	Wear suitable gloves tested to EN374 [PPE15].
	Process sampling [CS2]	No other specific measures identified [EI20].
	Laboratory activities [CS36]	No other specific measures identified [EI20].
	Bulk closed loading and unloading [CS501]	Handle substance within a closed system [E47]. Wear suitable gloves tested to EN374 [PPE15].
	Bulk open loading and unloading [CS503]	Wear suitable gloves tested to EN374 [PPE15].
	Drum and small pack filling [CS6]	Wear suitable gloves tested to EN374 [PPE15].
	Equipment cleaning and maintenance [CS39]	Drain down system prior to equipment break-in or maintenance [E65]. Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training [PPE16].

	Storage [CS67]	Handle substance within a closed system [E84].
Section 2.2	**Control of environmental exposure**	
	Product characteristics	Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].
	Amounts used	Fraction of EU tonnage used in region: 0.1
		Regional tonnage: 2.8 e^7 tonnes per year
		Fraction of Regional tonnage used locally: 0.002
		Annual site tonnage: 5.6 e^4 tonnes per year
		Maximum daily site tonnage: 0.19 kilotonnes per day
	Frequency and duration of use	Continuous release [FD2].
		Emission days per year: 300
	Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10
		Local marine dilution fraction: 100
	Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 0.001
		Release fraction to wastewater from process (initial release prior to RMM): 0.000001
		Release fraction to soil from process (initial release prior to RMM): 0.01
	Technical conditions and measures at process level (source) to prevent release	TCS 1: Common practices vary across sites thus conservative process release estimates used.
	Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	TCR1j: Risk from environmental exposure is driven by human via indirect exposure (primarily ingestion).
		TCR14: Prevent discharge of undissolved substance to or recover from onsite wastewater.
		TCR6: No wastewater treatment required.
		Treat air emission to provide a typical removal efficiency of 90%.
		Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ 0 %.
		If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ 0 %.
	Organizational measures to prevent / limit release from site	Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].
	Conditions and measures related to municipal sewage treatment plant	Estimated substance removal from wastewater via domestic sewage treatment 94.1 %.
		Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs 94.1 %.

		Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal 2.9 kilotonnes per day. Assumed domestic sewage treatment plant flow 2000 m^3 /day.
	Conditions and measures related to external treatment of waste for disposal	ETW3: External treatment and disposal of waste should comply with applicable regulations.
	Conditions and measures related to external recovery of waste	ERW1: External recovery and recycling of waste should comply with applicable regulations.
SECTION 3	**EXPOSURE ESTIMATION**	
Section 3.1	**Health**	
	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21].	
Section 3.2	**Environment**	
	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**	
Section 4.1	**Health**	
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented [G22]. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels [G23]. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects [G32]. Available hazard data do not support the need for a DNEL to be established for other health effects [G36]. Risk Management Measures are based on qualitative risk characterisation [G37].	
Section 4.2	**Environment**	
	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC. factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

SECTION 1	**EXPOSURE SCENARIO TITLE**	
Title	**Use as a fuel - Industrial**	
Use Descriptor	Sector(s) of Use	**SU3**: Industrial
	Process Categories	**PROC 1**: Use in closed process, no likelihood of exposure.

		PROC 2: Use in closed, continuous process with occasional controlled exposure. **PROC 3**: Use in closed batch process (synthesis or formulation). **PROC 8a**: Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at non-dedicated facilities. **PROC 8b**: Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at dedicated facilities. **PROC 16:** Using material as fuel sources, limited exposure to unburned product to be expected.
	Environmental Release Categories	**ERC 7**: Industrial use of sub-stances in closed systems.
	Specific Environmental Release Category	ESVOC SpERC 7.12a.v1
Processes, Tasks and Activities Covered	Covers the use as a fuel (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**	
Section 2.1	**Control of worker exposure**	
Product characteristics	Physical form of product	Liquid.
	Vapour Pressure	Liquid, vapour pressure <0.5 kPa at STP [OC3].
	Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
	Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2].
	Other operational conditions affecting worker exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently [G15]. Assumes a good basic standard of occupational hygiene is implemented [G1].
Contributing Scenarios	**Specific Risk Management Measures and Operational Conditions**	
	General measures applicable to all activities [CS135]	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions [G25].

	General measures (skin irritants) [G19]	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop [E3].
	Bulk transfers [CS14]	Wear suitable gloves tested to EN374 [PPE15].
	Drum/batch transfers [CS8]	Wear suitable gloves tested to EN374 [PPE15].
	Use as a fuel (closed systems) [GEST_12I, CS107]	No other specific measures identified [EI20].
	Equipment cleaning and maintenance [CS39]	Drain down system prior to equipment break-in or maintenance [E65]. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training [PPE16].
	Storage [CS67]	Handle substance within a closed system [E84].
Section 2.2	**Control of environmental exposure**	
	Product characteristics	Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].
	Amounts used	Fraction of EU tonnage used in region: 0.1
		Regional tonnage: 4.5 e^6 tonnes per year
		Fraction of Regional tonnage used locally: 0.34
		Annual site tonnage: 1.5 e^6 tonnes per year
		Maximum daily site tonnage: 5 kilotonnes per day
	Frequency and duration of use	Continuous release [FD2].
		Emission days per year: 300
	Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10
		Local marine dilution fraction: 100
	Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 0.005
		Release fraction to wastewater from process (initial release prior to RMM): 0.00001
		Release fraction to soil from process (initial release prior to RMM): 0
	Technical conditions and measures at process level (source) to prevent release	TCS 1: Common practices vary across sites thus conservative process release estimates used.
	Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases	TCR1b: Risk from environmental exposure is driven by freshwater sediment.
		TCR9: If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
		Treat air emission to provide a typical removal efficiency of 95

	to soil	%. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ 97.7 %. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ 60.4 %.
	Organizational measures to prevent / limit release from site	Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].
	Conditions and measures related to municipal sewage treatment plant	Estimated substance removal from wastewater via domestic sewage treatment 94.1 %. Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs 97.7 %. Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal 5 kilotonnes per day. Assumed domestic sewage treatment plant flow 2000 m^3 /day.
	Conditions and measures related to external treatment of waste for disposal	ETW1: Combustion emissions limited by required exhaust emission controls. ETW2: Combustion emissions considered in regional exposure assessment.
	Conditions and measures related to external recovery of waste	ERW1: External recovery and recycling of waste should comply with applicable regulations.
SECTION 3	**EXPOSURE ESTIMATION**	
Section 3.1	**Health**	
	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21].	
Section 3.2	**Environment**	
	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**	
Section 4.1	**Health**	
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented [G22]. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels [G23]. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects [G32]. Available hazard data do not support the need for a DNEL to be established for other health effects [G36]. Risk Management Measures are based on qualitative risk characterisation [G37].	
Section 4.2	**Environment**	

	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

SECTION 1	**EXPOSURE SCENARIO TITLE**	
Title	**Use as a Fuel - Professional**	
Use Descriptor	Sector(s) of Use	**SU22**: Professional
	Process Categories	**PROC 1**: Use in closed process, no likelihood of exposure.
		PROC 2: Use in closed, continuous process with occasional controlled exposure.
		PROC 3: Use in closed batch process (synthesis or formulation).
		PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
		PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
		PROC 16: Using material as fuel sources, limited exposure to unburned product to be expected.
	Environmental Release Categories	**ERC 9a**: Wide dispersive indoor use of substances in closed systems.
		ERC 9b: Wide dispersive outdoor use of substances in closed systems.
	Specific Environmental Release Category	ESVOC SpERC 9.12b.v1
Processes, Tasks and Activities Covered	Covers the use as a fuel (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**	
Section 2.1	**Control of worker exposure**	
Product characteristics	Physical form of product	Liquid.
	Vapour Pressure	Liquid, vapour pressure <0.5 kPa at STP [OC3].
	Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
	Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2].
	Other operational	Assumes use at not more than 20 °C above ambient

	conditions affecting worker exposure	temperature, unless stated differently [G15]. Assumes a good basic standard of occupational hygiene is implemented [G1].
Contributing Scenarios	**Specific Risk Management Measures and Operational Conditions**	
	General measures applicable to all activities [CS135]	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions [G25].
	General measures (skin irritants) [G19]	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop [E3].
	Bulk transfers [CS14]	Wear suitable gloves tested to EN374 [PPE15].
	Drum/batch transfers [CS8]	Use drum pumps or carefully pour from container [E64]. Wear suitable gloves tested to EN374 [PPE15].
	Refuelling activities [CS507]	Wear suitable gloves tested to EN374 [PPE15].
	Use as a fuel (closed systems) [GEST_12l, CS107]	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) [E11] **or** Ensure operation is undertaken outdoors [E69].
	Equipment cleaning and maintenance [CS39]	Drain down system prior to equipment break-in or maintenance [E65]. Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training [PPE16].
	Storage [CS67]	Handle substance within a closed system [E84].
Section 2.2	**Control of environmental exposure**	
	Product characteristics	Substance is complex UVCB [PrC3].
		Predominantly hydrophobic [PrC4a].
	Amounts used	Fraction of EU tonnage used in region: 0.1
		Regional tonnage: 6.7 e^7 per year
		Fraction of Regional tonnage used locally: 0.0005
		Annual site tonnage: 3.3 kilotonnes per year
		Maximum daily site tonnage: 9.2 tonnes per day
	Frequency and duration of use	Continuous release [FD2].
		Emission days per year: 365

	Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10 Local marine dilution fraction: 100
	Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 0.0001 Release fraction to wastewater from process (initial release prior to RMM) : 0.00001 Release fraction to soil from process (initial release prior to RMM) : 0.00001
	Technical conditions and measures at process level (source) to prevent release	TCS 1: Common practices vary across sites thus conservative process release estimates used.
	Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	TCR1j: Risk from environmental exposure is driven by human via indirect exposure (primarily ingestion). TCR6: No wastewater treatment required. Treat air emission to provide a typical removal efficiency of N/A. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ 0 %. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ 0 %.
	Organizational measures to prevent / limit release from site	Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].
	Conditions and measures related to municipal sewage treatment plant	Estimated substance removal from wastewater via domestic sewage treatment 94.1 %. Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs 94.1 %. Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal 140 tonnes per day. Assumed domestic sewage treatment plant flow 2000 m^3 per day.
	Conditions and measures related to external treatment of waste for disposal	ETW1: Combustion emissions limited by required exhaust emission controls. ETW2: Combustion emissions considered in regional exposure assessment.
	Conditions and measures related to external recovery of waste	ERW1: External recovery and recycling of waste should comply with applicable regulations.
SECTION 3	**EXPOSURE ESTIMATION**	
Section 3.1	**Health**	
	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21].	

Section 3.2	**Environment**
	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1	**Health**
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented [G22]. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels [G23]. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects [G32]. Available hazard data do not support the need for a DNEL to be established for other health effects [G36]. Risk Management Measures are based on qualitative risk characterisation [G37].
Section 4.2	**Environment**
	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

SECTION 1	**EXPOSURE SCENARIO TITLE**	
Title	**Use as a fuel - Consumer**	
Use Descriptor	Sector(s) of Use	**SU21**: Consumer
	Product Categories	**PC 13**: Fuels
	Environmental Release Categories	**ERC 9a**: Wide dispersive indoor use of substances in closed systems.
		ERC 9b: Wide dispersive outdoor use of substances in closed systems.
	Specific Environmental Release Category	ESVOC SpERC 9.12c.v1
Processes, Tasks and Activities Covered	Covers consumer uses in fuels.	
SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**	
Section 2.1	**Control of consumer exposure**	
Product characteristics	Physical form of product	Liquid.
	Vapour Pressure	Liquid, vapour pressure > 10 Pa [OC15].

	Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100 % [ConsOC1].
	Frequency and duration of use	Unless otherwise stated, covers use amounts up to 37500 g [ConsOC2]; covers skin contact area up to 420 cm^2 [ConsOC5]
	Other operational conditions affecting worker exposure	Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]
Product Category	**Specific Risk Management Measures and Operational Conditions**	
PC13: Fuels- Liquid Subcategories added: Automotive Refuelling	OC	Unless otherwise stated, covers concentrations up to 100 % [ConsOC1]; covers use up to 52 days/year [ConsOC3]; covers use up to 1 time/on day of use [ConsOC4]; covers skin contact area up to 210.00 cm^2 [ConsOC5]; for each use event, covers use amounts up to 37500 g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100 m^3 [ConsOC11]; for each use event, covers exposure up to 0.05 hr/event [ConsOC14].
	RMM	No specific RMMs developed beyond those OCs stated [ConsRMM15].
PC13: Fuels - Liquid Subcategories added: Garden Equipment - Use	OC	Unless otherwise stated, covers concentrations up to 100 % [ConsOC1]; covers use up to 26 days/year [ConsOC3]; covers use up to 1 time/on day of use [ConsOC4]; for each use event, covers use amounts up to 750 g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100 m^3 [ConsOC11]; for each use event, covers exposure up to 2.00 hr/event [ConsOC14].
	RMM	No specific RMMs developed beyond those OCs stated [ConsRMM15].
PC13: Fuels – Liquid Subcategories added: Garden Equipment - Refuelling	OC	Unless otherwise stated, covers concentrations up to 100 % [ConsOC1]; covers use up to 26 days/year [ConsOC3]; covers use up to 1 time/on day of use [ConsOC4]; covers skin contact area up to 420.00 cm^2 [ConsOC5]; for each use event, covers use amounts up to 750 g [ConsOC2]; Covers use in a one car garage (34 m^3) under typical ventilation [ConsOC10]; covers use in room size of 34 m^3 [ConsOC11]; for each use event, covers exposure up to 0.03 hr/event [ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated [ConsRMM15].
Section 2.2	**Control of environmental exposure**	
	Product characteristics	Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].
	Amounts used	Fraction of EU tonnage used in region: 0.1 Regional tonnage: 1.6 e^7 per year Fraction of Regional tonnage used locally: 0.0005 Annual site tonnage: 8.2 kilotonnes per year

		Maximum daily site tonnage: 23 tonnes per day
	Frequency and duration of use	Continuous release [FD2]. Emission days per year: 365
	Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10 Local marine dilution fraction: 100
	Other Operational Conditions of use affecting environmental exposure	Release fraction to air from wide dispersive use (regional only): 0.0001 Release fraction to wastewater from wide dispersive use: 0.00001 Release fraction to soil from wide dispersive use (regional only): 0.00001
	Conditions and measures related to municipal sewage treatment plant	Estimated substance removal from wastewater via domestic sewage treatment 94.1 %. Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal 230 tonnes /day. Assumed domestic sewage treatment plant flow 2000 m^3 /day.
	Conditions and measures related to external treatment of waste for disposal	ETW1: Combustion emissions limited by required exhaust emission controls. ETW2: Combustion emissions considered in regional exposure assessment.
	Conditions and measures related to external recovery of waste	ERW1: External recovery and recycling of waste should comply with applicable regulations.
SECTION 3	**EXPOSURE ESTIMATION**	
Section 3.1	**Health**	
	The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.	
Section 3.2	**Environment**	
	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**	
Section 4.1	**Health**	
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented [G22]. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels [G23].	
Section 4.2	**Environment**	
	Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

SECTION 1	**EXPOSURE SCENARIO TITLE**	
Title	**Use in Road and Construction Applications - Professional**	
Use Descriptor	Sector(s) of Use	**SU22**: Professional
	Process Categories	**PROC 8a**: Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at non-dedicated facilities. **PROC 8b**: Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at dedicated facilities. **PROC 9**: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). **PROC 10**: Roller application or brushing. **PROC 11**: Non industrial spraying. **PROC 13**: Treatment of articles by dipping and pouring.
	Environmental Release Categories	**ERC 8d**: Wide dispersive outdoor use of processing aids in open systems. **ERC 8f**: Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
	Specific Environmental Release Category	ESVOC SpERC 8.15.v1
Processes, Tasks and Activities Covered	Application of surface coatings and binders in road and construction activities, including paving uses, manual mastic and in the application of roofing and water-proofing membranes.	
SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**	
Section 2.1	**Control of worker exposure**	
Product characteristics	Physical form of product	Liquid.
	Vapour Pressure	Liquid, vapour pressure <0.5 kPa at STP [OC3].
	Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13].
	Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2].
	Other operational conditions affecting worker exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently [G15]. Assumes a good basic standard of occupational hygiene is implemented [G1].
Contributing Scenarios	**Specific Risk Management Measures and Operational Conditions**	
	General measures applicable to all activities [CS135]	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance.

		Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions [G25].
	General measures (skin irritants) [G19]	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop [E3]. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying [E4].
	Drum/batch transfers (Nondedicated facility) [CS8, CS82]	Wear gloves tested to EN374 [PPE15].
	Drum/batch transfers (Dedicated facility) [CS8, CS82]	Wear gloves tested to EN374 [PPE15].
	Spraying/fogging by machine application [CS25]	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]. Ensure operation is undertaken outdoors [E69]. Wear gloves tested to EN374 [PPE15].
	Manual applications e.g. brushing, rolling [CS13]	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training [PPE17].
	Dipping, immersion and pouring [CS4]	Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training [PPE16].
	Equipment cleaning and maintenance [CS39]	Drain down system prior to equipment break-in or maintenance [E65]. Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training [PPE16].
	Store substance within a closed system [E84].	Handle substance within a closed system [E84].
Section 2.2	**Control of environmental exposure**	
	Product characteristics	Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].
	Amounts used	Fraction of EU tonnage used in region: 0.1.
		Regional tonnage: 31 kilotonnes per year
		Fraction of Regional tonnage used locally: 0.0005
		Annual site tonnage: 15 tonnes per year
		Maximum daily site tonnage: 0.042 tonnes per day
	Frequency and duration of use	Continuous release [FD2].
		Emission days per year: 365
	Environmental factors	Local freshwater dilution fraction: 10

	not influenced by risk management	Local marine dilution fraction: 100
	Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 0.95 Release fraction to wastewater from process (initial release prior to RMM): 0.01 Release fraction to soil from process (initial release prior to RMM): 0.04
	Technical conditions and measures at process level (source) to prevent release	TCS 1: Common practices vary across sites thus conservative process release estimates used.
	Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	TCR1b: Risk from environmental exposure is driven by freshwater sediment. TCR9: If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Treat air emission to provide a typical removal efficiency of N/A. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ 12.2 %. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ 0 %.
	Organizational measures to prevent / limit release from site	Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].
	Conditions and measures related to municipal sewage treatment plant	Estimated substance removal from wastewater via domestic sewage treatment 94.1 %. Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs 94.1 %. Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal 0.62 tonnes /day. Assumed domestic sewage treatment plant flow 2000 m^3 /day.
	Conditions and measures related to external treatment of waste for disposal	ETW3: External treatment and disposal of waste should comply with applicable regulations.
	Conditions and measures related to external recovery of waste	ERW1: External recovery and recycling of waste should comply with applicable regulations.
SECTION 3	**EXPOSURE ESTIMATION**	
Section 3.1	**Health**	
	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21].	

Section 3.2	**Environment**
	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1	**Health**
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented [G22]. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels [G23]. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects [G32]. Available hazard data do not support the need for a DNEL to be established for other health effects [G36]. Risk Management Measures are based on qualitative risk characterisation [G37].
Section 4.2	**Environment**
	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].