ÖRYGGISBLAÐ
2-(2-BUTOXYETHOXY)ETHANOL

KAFLI 1: Auðkenning efnisins eða efnablöndunnar og félagsins eða fyrirtækisins

1.1 Vörukenni

Heiti vöru	2-(2-BUTOXYETHOXY)ETHANOL
Vörunúmer	1400
Samheiti; viðskiptaheiti	2-(2-BUTOXYETHOXY) ETHANOL, DIETHYLENE GLYCOL MONO BUTYL ETHER, EMKANOL BDG, BUTYL CARBITOL, BUTYL DIETHOXOL, BUTYL DIGLYCOL ETHER, BDG
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
ESB skráarnúmer	603-096-00-8
EB númer	203-961-6

1.2 Viðeigandi og tilgreind notkun efnis eða blöndu og notkun sem ráðið er frá

Tilgreind notkun	Chemical Intermediate Chemicals er notað í nýmyndun og / eða samsetnlngu iðnaðarvara Hreinsiefni. Fyrir frekari upplýsingar, sjá váhrifasviðsmynd í viðhengi.

1.3 Upplýsingar um birgi öryggisblaðsins

Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1.4 Neyðarsímanúmer

Neyðarsími	SGS - +32 (0)3 575 55 55 (24h)
Neyðarsímanúmer	Eitrunarmiðstöðin 543 2222
Sds No.	1400

KAFLI 2: Hættugreining

2.1 Flokkun efnisins eða blöndunnar

Flokkun (EB 1272/2008)

Líkamleg hætta	Óflokkað
Heilbrigðishætta	Augnert. 2 - H319
Umhverfishætta	Óflokkað

2.2. Merkingaratriði

2-(2-BUTOXYETHOXY)ETHANOL

EB númer 203-961-6

Skýringarmynd

Viðvörunarorð Varúð

Hættusetningar H319 Veldur alvarlegri augnertingu.

Varnaðarsetning P264 Þvoið mengaða húð vandlega eftir meðhöndlun.
P280 Notið hlífðarhanska/ hlífðarfatnað/ augnhlífar/ andlitshlífar.
P305+P351+P338 BERIST EFNIÐ Í AUGU: Skolið varlega með vatni í nokkrar mínútur. Fjarlægið snertilinsur ef það er auðvelt. Skolið áfram.
P337+P313 Ef augnerting er viðvarandi: Leitið læknis.

2.3. Aðrar hættur

Þetta efni er ekki flokkað þrávirkt, safnast upp í náttúrunni og eitrað (PBT) né mjög þrávirkt og safnast upp í náttúrunni í miklum mæli (vPvB) samkvæmt núverandi ESB viðmiðum.

KAFLI 3: Samsetning innihaldsefna/upplýsingar um innihaldsefni

3.1. Efni

Heiti vöru 2-(2-BUTOXYETHOXY)ETHANOL

REACH skráningarnúmer 01-2119475104-44-XXXX

ESB skráarnúmer 603-096-00-8

CAS númer 112-34-5

EB númer 203-961-6

Athugasemdir við samsetningu Sýnd gögn er í samræmi við nýjustu EB tilskipanir.

3.2. Blöndur

Chemical Name 2-(2-BUTOXYETHOXY)ETHANOL

KAFLI 4: Ráðstafanir í skyndihjálp

4.1. Lýsing á ráðstöfunum í skyndihjálp

Innöndun Færið viðkomandi samstundis undir ferskt loft. Leitið læknishjálpar ef óþægindi halda áfram.

Inntaka Færið viðkomandi undir ferkst loft og haldið hlýjum og í hvíldarstöðu sem þægileg er til öndunar. Hreinsið munninn vel með vatni. Gefið mikið af vatni að drekka. Leitið læknishjálpar ef óþægindi halda áfram.

Snerting við húð Fjarlægið mengaðan fatnað samstundis og þvoið húð með sápu og vatni. Leitið læknishjálpar ef óþægindi halda áfram.

Snerting við augu Skolið samstundis með miklu vatni. Fjarlægið augnlinsur og haldið augnlokunum vel opnum. Haldið áfram að skola í að minnsta kosti 15 mínútur. Leitið samstundis læknishjálpar. Haldið áfram að skola.

4.2. Helstu skaðleg einkenni og áhrif, bæði bráð og tafin

Snerting við augu Erting í augu og slímhimnur.

4.3. Upplýsingar um tafarlausa læknisumönnun og sérstaka meðferð sem þörf er á

2-(2-BUTOXYETHOXY)ETHANOL

Athugasemdir fyrir lækninn Engin sérstök tilmæli. Ef í vafa, leitið samstundis læknishjálpar.

KAFLI 5: Ráðstafanir vegna slökkviaðgerða

5.1. Slökkvibúnaður

Hentugt slökkviefni Slökkvið með alkahólþolinni froðu, koldíoxíði, þurrdufti eða vatnsþoku.

5.2. Sérstakar hættur af völdum efnisins eða blöndunnar

Sérstök hætta Oxíð eftirtalinna efna: Kolefni.

5.3. Ráðgjöf fyrir slökkviliðsmenn

Sérstakur hlífðarbúnaður fyrir slökkviliðsmenn Notið sjálfstæðan öndunarbúnað með yfirþrýsting (SÖY) og viðeigandi hlífðarfatnað.

KAFLI 6: Ráðstafanir ef efni fer óvart til spillis eða er losað fyrir slysni

6.1. Öryggisráðstafanir fyrir fólk, hlífðarbúnaður og neyðarráðstafanir

Persónulegar varúðarráðstafanir Fylgið varúðarráðstöfunum um örugga meðhöndlun sem lýst er í þessum öryggisleiðbeiningum. Tryggið næga loftun. Varist snertingu við húð og augu.

6.2. Varúðarráðstafanir vegna umhverfisins

Umhverfisvarúðarráðstafanir Leka eða óstýrða losun í vatnsföll verður að tilkynna samstundis til Umhverfisstofnunar eða annarra viðeigandi yfirvalda.

6.3. Aðferðir og efni til afmörkunar og hreinsunar

Aðferðir við að þrífa upp Sjúgið upp efnalekann með hvarftregu, röku, óbrennanlegu efni. Skolið mengað svæði með miklu vatni. Safnið saman og setjið í viðeigandi losunarílát og lokið tryggilega. Fyrir förgun úrgangs, sjá kafla 13.

6.4. Tilvísun í aðra liði

Tilvísun í aðra kafla Notið hlífðarfatnað sem lýst er í kafla 8 í þessum öryggisleiðbeiningum.

KAFLI 7: Meðhöndlun og geymsla

7.1. Varúðarráðstafanir um örugga meðhöndlun

Varúðarráðstafanir fyrir notkun Forðist leka. Varist snertingu við húð og augu. Tryggið næga loftun.

7.2. Örugg geymsluskilyrði, þ.m.t. vegna mögulegs ósamrýmanleika.

Varúðarráðstafanir fyrir geymslu Geymið í þétt lokuðu, upprunalegu íláti á þurrum, svölum og vel loftræstum stað.

7.3. Sértæk endanleg notkun

Sérstök endanleg notkun Skilgreindri notkun fyrir þessa vöru er lýst nákvæmlega í kafla 1.2.

KAFLI 8: Váhrifavarnir/persónuhlífar

8.1. Takmörkunarfæribreytur

Viðmiðunarmörk fyrir váhrif í starfi

Langtíma váhrifamörk(8-klst TWA): 10 ppm 67,5 mg/m³
Skammtíma váhrifamörk (15-mínútur): 15 ppm 101,2 mg/m³

Athugasemdir við innihaldsefni WEL = Workplace Exposure Limits

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DNEL

Starfsfólk - Innöndun; Skammtíma staðbundin áhrif: 101.2 mg/m³
Starfsfólk - Húð; Langtíma kerfisbundin áhrif: 83 mg/kg/day
Starfsfólk - Innöndun; Langtíma kerfisbundin áhrif: 67.5 mg/m³
Starfsfólk - Innöndun; Langtíma staðbundin áhrif: 67.5 mg/m³
Neytandi - Innöndun; Skammtíma staðbundin áhrif: 60.7 mg/m³
Neytandi - Húð; Langtíma kerfisbundin áhrif: 50 mg/kg/day
Neytandi - Innöndun; Langtíma kerfisbundin áhrif: 40.5 mg/m³
Neytandi - Um munn; Langtíma kerfisbundin áhrif: 5 mg/kg/day
Neytandi - Innöndun; Langtíma staðbundin áhrif: 40.5 mg/m³

PNEC

- Ferskt vatn; 1.1 mg/l
- Sjór; 0.11 mg/l
- Ósamfelld losun; 11 mg/l
- Skólphreinsistöð; 200 mg/l
- Botnfall (ferskt vatn); 4.4 mg/kg
- Botnfall (sjór); 0.44 mg/kg
- Jarðvegur; 0.32 mg/kg

8.2. Váhrifavarnir

Hlífðarbúnaður

Viðeigandi verkfræðilegt eftirlit Tryggið næga loftun.

Augn/andlitsvörn Nota skal eftirfarandi hlífðarbúnað: Hlífðargleraugu. Persónulegur hlífðarbúnaður fyrir augu og andlit skal vera í samræmi við evrópustaðal EN166.

Vörn handa Velja skal hentugustu hanskana í samráði við birgja/framleiðanda hanskanna, sem getur veitt upplýsingar um gegndræpistíma efnisins í hönskunum. Valdir hanskar skulu hafa gegndræpitíma að minnsta kosti >3 klst. Bútýl gúmmí. hanski þykkt >0.35mm Nítríl gúmmí. hanski þykkt >0.35mm Neopren. hanski þykkt >0.35mm Til þess að verja hendur fyrir efnum skulu hanskar vera í samræmi við evrópustaðal EN374.

Önnur húð og líkamsvörn Notið viðeigandi hlífðarfatnað til varnar gegn slettum eða mengun. Notið svuntu úr gúmmí. Verið í gúmmískóm.

Hreinlætisaðgerðir Ekki er mælt með sérstökum verklagsreglum um hreinlæti en alltaf ætti að fylgja góðum starfsvenjum um persónulegt hreinlæti þegar unnið er með efnavörur.

Hlífðarbúnaður fyrir öndun Ef loftræsting er ófullnægjandi skal nota viðeigandi öndunargrímu. EN 136/140/141/145/143/149

KAFLI 9: Eðlis- og efnafræðilegir eiginleikar

9.1. Upplýsingar um eðlis- og efnafræðilega grunneiginleika

Útlit Vökvi.

Litur Litlaus.

Lykt Mild.

Lyktarmörk Engar upplýsingar aðgengilegar.

pH pH (mettuð lausn): ~ 7

Bræðslumark - 68.0°C

Upphafssuðumark og bil 230°C

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Blossamark	101°C Tag closed cup.
Uppgufunarhraði	Engar upplýsingar aðgengilegar.
Uppgufunarstuðull	Engar upplýsingar aðgengilegar.
Eldfimi (fast efni, lofttegundir)	Engar upplýsingar aðgengilegar.
Efri/neðri eldfimi eða sprengimörk	Lægri eldfimi-/sprengimörk: 0.69 % Lægri eldfimi-/sprengimörk: 46 g/m³ 102.2°C Efri eldfimi-/sprengimörk: 5.9 % Efri eldfimi-/sprengimörk: 398 g/m³ 143°C
Önnur eldfimi	Engar upplýsingar aðgengilegar.
Gufuþrýstingur	<10 Pa
Gufuþéttni	Engar upplýsingar aðgengilegar.
Eðlismassi	0.956 @ 20°C
Rúmþyngd	Engar upplýsingar aðgengilegar.
Leysni	Leysanlegt í vatni.
Deilistuðull	: 0.56
Sjálfsíkveikjuhitastig	223°C
Niðurbrotshiti	Engar upplýsingar aðgengilegar.
Seigja	6.49 mPa s @ 20°C
Sprengieiginleikar	Ekki talið sprengifimt.
Sprengifimt vegna áhrifa loga	Ekki talið sprengifimt.
Oxunareiginleikar	Ekki fyrirliggjandi.

9.2. Aðrar upplýsingar

Aðrar upplýsingar	Ekki ákvarðað.
Brotstuðull	Engar upplýsingar aðgengilegar.
Agnastærð	Engar upplýsingar aðgengilegar.
Mólmassi	Engar upplýsingar aðgengilegar.
Rokgirni	Engar upplýsingar aðgengilegar.
Mettunarstyrkur	Engar upplýsingar aðgengilegar.
Markhiti	Engar upplýsingar aðgengilegar.
Rokgjörn lífræn sambönd	Engar upplýsingar aðgengilegar.

KAFLI 10: Stöðugleiki og hvarfgirni

10.1. Hvarfgirni

Hvarfgirni	Það er engin þekkt hætta af hvarfgirni við þessa vöru.

10.2 Efnafræðilegur stöðugleiki

Stöðugleiki	Stöðugt við eðlilegan herbergishita og þegar notað eins og mælt er með.

10.3. Möguleiki á hættulegu efnahvarfi

Möguleiki á hættulegum hvörfum	Ekki ákvarðað.

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10.4. Skilyrði sem ber að varast

Aðstæður sem ber að forðast Forðist of mikinn hita yfir lengri tíma. Forðist hita, loga og aðra íkveikjuvalda.

10.5. Ósamrýmanleg efni

Efni sem skal forðast Sterkar sýrur. Sterkir basar. Sterk oxandi efni.

10.6. Hættuleg niðurbrotsefni

Hættuleg niðurbrotsefni Oxíð eftirtalinna efna: Kolefni.

KAFLI 11: Eiturefnafræðilegar upplýsingar

11.1. Upplýsingar um eiturefnafræðileg áhrif

Bráð eitrun - um munn

Bráð eitrun um munn (LD_{50} mg/kg) 6.600,0

Dýrategund Rotta

Bráð eitrun - um húð

Bráð eitrun húðar (LD_{50} mg/kg) 2.764,0

Dýrategund Kanína

ATE húð (mg/kg) 2.764,0

Bráð eitrun - við innöndun

Athugasemdir (innöndun LC_{50}) >29 ppm, Innöndun, Rotta 2 hours

Æting/erting húðar

Gögn um dýr Ekki ertandi.

Alvarlegur augnskaði / erting

Alvarlegur augnskaði/erting Ertir augu.

Næming öndunarfæra

Næming öndunarvegar Engar sérstakar rannsóknarniðurstöður liggja fyrir.

Næming húðar

Næming húðar Hámarkspróf á naggrísum (GPMT (Guinea pig maximization test)) - Naggrís: Ekki næmandi.

Stökkbreytandi áhrif á kímfrumur

Erfðaeiturhrif - í tilraunaglasi Engar vísbendingar eru um stökkbreytandi eiginleika efnisins.

Krabbameinsvaldandi áhrif

Krabbameinsvaldandi áhrif Engar sérstakar rannsóknarniðurstöður liggja fyrir.

Eiturhrif á æxlun

Eitrunaráhrif á æxlun - frjósemi Engar vísbendingar eru um að efnið valdi eituráhrifum á æxlun.

Eitrunaráhrif á æxlun - þroski Engar vísbendingar eru um að efnið valdi eituráhrifum á æxlun.

Sértæk eiturhrif á marklíffæri - stök váhrif

STOT-stök váhrif Engar sérstakar rannsóknarniðurstöður liggja fyrir.

Sértæk eiturhrif á marklíffæri - endurtekin váhrif

STOT-endurtekin váhrif Langvarandi eða endurtekin váhrif geta valdið eftirtöldum alvarlegum áhrifum: Nýrnaskaði.

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Ásvelgingshætta

Ásvelgingshætta Ekki fyrirliggjandi.

Innöndun Getur valdið ertingu í öndunarvegi.

Inntaka Getur valdið óþægindum ef innbirgt.

Snerting við húð Lítillega ertandi.

Snerting við augu Ertir augu.

KAFLI 12: Vistfræðilegar upplýsingar

Visteituráhrif Þættir vörunnar eru ekki flokkaðir sem hættulegir umhverfinu. Þó hafa stórir, tíðir efnalekar hættuleg áhrif á umhverfið.

12.1 Eiturhrif

Eitrun Ekki talið eitrað fiskum.

Bráð eiturhrif í vatni

Bráðu eitrun - fiskur LC_{50}, 96 hours: 2700 mg/l, Fiskur
LC_{50}, 96 klukkutímar: 1300 mg/l, Lepomis macrochirus (fiskitegund)

Bráð eitrun - hryggleysingjar EC_{50}, 48 hours: >1000 mg/l, Daphnia magna (halaflær)

Bráð eitrun - vatnaplöntur OECD 201
EC_{50}, 96 klukkutímar: > 100 mg/l, Ferskvatnsplöntur

12.2. Þrávirkni og niðurbrjótanleiki

Þrávirkni og niðurbrot Varan er auðlífbrjótanleg.

Lífniðurbrot - Niðurbrot 80 - 90%: 28 dagar
OECD 301C

12.3. Uppsöfnun í lífverum

Möguleiki á uppsöfnun í lífverum Varan inniheldur engin efni sem talin eru safnast upp í náttúrunni.

Deilistuðull : 0.56

12.4. Hreyfanleiki í jarðvegi

Hreyfanleiki Varan er leysanleg í vatni.

12.5. Niðurstöður úr mati á PBT- og vPvB-eigineikum.

Niðurstöður PBT og vPvB mats Þetta efni er ekki flokkað þrávirkt, safnast upp í náttúrunni og eitrað (PBT) né mjög þrávirkt og safnast upp í náttúrunni í miklum mæli (vPvB) samkvæmt núverandi ESB viðmiðum.

12.6. Önnur skaðleg áhrif

Cod 2.02

Önnur skaðleg áhrif Ekki ákvarðað.

KAFLI 13: Förgun

13.1. Aðferðir við meðhöndlun úrgangs

Almennar upplýsingar Gerið ekki gat á né kveikið í, jafnvel þó tómt.

Losunaraðferðir Losið úrgang til leyfisskilds urðunaraðlia í samræmi við kröfur svæðisbundinna yfirvalda.

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KAFLI 14: Upplýsingar um flutninga

Almennt Varan fellur ekki undir alþjóðlegar reglur um flutning á hættulegum farmi (IMDG, IATA, ADR / RID).

14.1. UN-númer

Engra upplýsinga er þörf.

14.2. Rétt UN-sendingarheiti

Engra upplýsinga er þörf.

14.3. Hættuflokkur eða -flokkar vegna flutninga

Engra upplýsinga er þörf.

14.4 Pökkunarflokkur

Engra upplýsinga er þörf.

14.5. Umhverfishættur

Efni hættulegt umhverfinu / mengar sjó
Nei.

14.6. Sérstakar varúðarráðstafanir fyrir notanda

Engra upplýsinga er þörf.

14.7. Flutningar búlkafarms skv. II. viðauka við MARPOL-samninginn frá ´73/78 og IBC kóðanum.

Flutningar í búlk samkvæmt viðauka II af MARPOL 73/78 og IBC kóðanum Engra upplýsinga er þörf.

KAFLI 15: Upplýsingar varðandi regluverk

15.1. Sértæk ákvæði/löggjöf fyrir efnið eða blönduna vegna öryggis, heilbrigðis og umhverfis

ESB löggjöf Reglugerð (EB) nr. 1907/2006 Evrópuþingsins og Ráðsins frá 18. desember 2006 um skráningu, mat, leyfisveitingu og takmarkanir á efnum (REACH) (með áorðnum breytingum).
Reglugerð (EB) nr. 1272/2008 Evrópuþingsins og Ráðsins frá 16. desember 2008 um flokkun, merkingu og umbúðir efna og blanda (með áorðnum breytingum).
Reglugerð Framkvæmdastjórnarinnar (EB) nr. 2015/830 frá 28 maí 2015.

15.2. Efnaöryggismat

Efnaöryggismat hefur farið fram.

Birgðir

ESB (EINECS/ELINCS)
Öll innihaldsefnin eru á lista eða eru undanþegin.

KAFLI 16: Aðrar upplýsingar

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Styttingar og skammstafanir sem eru notaðar í öryggisblaðinu

ATE: Matsgildi bráðra eiturhrifa.
ADR: Evrópusamningur um millilandaflutninga á hættulegum farmi á vegum
ADN: Evrópusamningur um millilandaflutninga á hættulegum farmi á landi og skipgengum vatnaleiðum.
CAS: Upplýsingaþjónusta um íðefni.
DNEL: Afleidd áhrifaleysismörk.
IATA: Alþjóðasamband flugfélaga.
IMDG: Alþjóðlegur kóði um siglingu með hættulegan varning.
Kow: Oktanól-vatn deilistuðull.
LC50: Styrkur sem veldur dauða 50% tilraunadýra.
LD50: Skammtur sem veldur dauða 50% tilraunadýra (miðgildisbanaskammtur).
PBT: Þrávirk efni sem safnast fyrir í lífverum og eru eitruð.
PNEC: Styrkur þar sem engin áhrif eru fyrirsjáanleg.
REACH: Reglugerð um skráningu, mat, leyfisveitingu og takmarkanir á kemískum efnum (EB) nr. 1907/2006
RID: Reglur um millilandaflutninga á hættulegum farmi með járnbrautum.
vPvB: Mjög þrávirk efni sem safnast fyrir í lífverum í miklum mæli.
IARC: Alþjóðakrabbameinsrannsóknastofnunin.
MARPOL 73/78: Alþjóðasamningur um varnir gegn mengun frá skipum, 1973, með breytingum samvæmt bókun frá 1978.
cATpE: Umreiknað matsgildi bráðra eiturhrifa.
BCF: Lífþéttnistuðull.
BOD: Lífræn súrefnisþörf.
EC_{50}: 50% af hámarks hrifstyrk.
LOAEC: Lægsti styrkur sem sýnir merkjanleg skaðleg áhrif.
LOAEL: Lægstu mörk um merkjanleg skaðleg áhrif.
NOAEC: Styrkleikamörk um engin merkjanleg, skaðleg áhrif.
NOAEL: Mörk um engin merkjanleg, skaðleg áhrif.
NOEC: Styrkur sem hefur engin merkjanleg áhrif
LOEC: Minnsti styrkur sem hefur merkjanleg áhrif
DMEL: Afleidd mörk um lágmarks áhrif.
El50: váhrif 50
hPa: Hektopaskal
LL50: Lethal Loading fimmtíu
OECD: Efnahags- og framfarastofnunin
POW: OC Talk OL-vatn fasti
SCBA: sjálf-öndunarbúnað
STP Skólphreinsunarstöð
VOC: rokgjarnra lífrænna efnasambanda

Flokkunarskammstafanir og upphafsstafaorð

Bráð eit. = Bráð eitrun
Bráð eit. á vatn =Bráð eitrun á vatnaumhverfi
Langv. eit. á vatn = Langvinn eitrun á vatnaumhverfi

Helstu fræðilegar heimildir og uppruni gagna

Upplýsingar dreifingaraðila.

Athugasemdir við endurskoðun

Athugið: Línur innan við spássíu gefa til kynna marktækar breytingar frá fyrri endurskoðun.

Dagsetning endurskoðunar 5.1.2018

Útgáfunúmer 4.000

Yfirtökudagsetning 1.6.2017

SDS númer 1400

2-(2-BUTOXYETHOXY)ETHANOL

SDS staða	Samþykkt.
Hættusetningar í fullri lengd	H319 Veldur alvarlegri augnertingu.
Undirskrift	Jitendra Panchal

Exposure scenario
Use in Formulation

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Formulation
Process scope	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC2 Formulation of preparations. ERC3 Formulation in materials.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Workers - Health 1)

Use in Formulation

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Use in Formulation

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 20 mg/m³, RCR 0.5007
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC15 Use as laboratory reagent.
Worker - dermal, long-term - systemic:
Exposure 0.3429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.017143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Distribution of substance, Distribution of formulations, Use in packaging

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Distribution of substance, Distribution of formulations, Use in packaging
Process scope	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 distribution and associated laboratory activities.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC2 Formulation of preparations. ERC3 Formulation in materials.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid

Distribution of substance, Distribution of formulations, Use in packaging

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Distribution of substance, Distribution of formulations, Use in packaging

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC15 Use as laboratory reagent.
Worker - dermal, long-term - systemic:
Exposure 0.3429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.017143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Coatings - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Coatings - Industrial
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC5 Industrial use resulting in inclusion into or onto a matrix.

Worker

Use in Coatings - Industrial

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC7 Spraying in industrial settings and applications. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. PROC7 Spraying in industrial settings and applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m).

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

Use in Coatings - Industrial

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC7 Spraying in industrial settings and applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Coatings - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 20 mg/m³, RCR 0.5007
PROC7 Spraying in industrial settings and applications.
Worker - inhalation, long-term - systemic:
Exposure 9.15 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.4575
Worker - inhalation, long-term - systemic:
Exposure 3.02 mg/m³, DNEL 67.5 mg/m³, RCR 0.044741
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC13 Treatment of articles by dipping and pouring.

Use in Coatings - Industrial

Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC15 Use as laboratory reagent.
Worker - dermal, long-term - systemic:
Exposure 0.3429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.017143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Coatings - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Coatings - Professional
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

Worker

Use in Coatings - Professional

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC19 Hand-mixing with intimate contact and only PPE available.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur. PROC11 Spraying outside industrial settings and/or applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. PROC19 Hand-mixing with intimate contact and only PPE available. Avoid carrying out activities involving exposure for more than 4 hours.

Risk management measures

Use in Coatings - Professional

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC11 Spraying outside industrial settings and/or applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Coatings - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 20 mg/m³, RCR 0.70098
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 29.5726 mg/m³, DNEL 67.5 mg/m³, RCR 0.438112
PROC11 Spraying outside industrial settings and/or applications.
Worker - dermal, long-term - systemic:
Exposure 9.15 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.4575
Worker - inhalation, long-term - systemic:
Exposure 3.3 mg/m³, DNEL 67.5 mg/m³, RCR 0.04889
PROC13 Treatment of articles by dipping and pouring.

Use in Coatings - Professional

Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC15 Use as laboratory reagent.
Worker - dermal, long-term - systemic:
Exposure 0.3429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.017143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC19 Hand-mixing with intimate contact and only PPE available.
Worker - dermal, long-term - systemic:
Exposure 7.0714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.353571
Worker - inhalation, long-term - systemic:
Exposure 25.3479 mg/m³, DNEL 67.5 mg/m³, RCR 0.375525

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra http://www.tno.nl and search for riskofderm. https://www.stoffenmanager.nl/default.aspx Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Coatings - Consumer

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
ESB skráarnúmer	603-096-00-8
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Coatings - Consumer
Process scope	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.
Product category	PC9a Coatings and paints, thinners, paint removers. PC9c Finger paints.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	PC9a Coatings and paints, thinners, paint removers. Concentration of substance in product: 3% PC9c Finger paints Concentration of substance in product: 5%

Use in Coatings - Consumer

Frequency and duration of use

PC9a Coatings and paints, thinners, paint removers.
Application duration: 132 mínútur
Covers frequency up to 4 days/year, , .
PC9c Finger paints
Application duration: 480 mínútur
Covers frequency up to 4 days/year, , .

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Covers use under typical household ventilation.

PC9a Coatings and paints, thinners, paint removers. Release area: 150000 cm² PC9c Finger paints Release area: 100000 cm²

3. Exposure estimation (Health 1)

Assessment method ECETOC TRA Consumer ConsExpo v4.1

Exposure PC9a Coatings and paints, thinners, paint removers.
Consumer - dermal, long-term - systemic:
Exposure 0.0182 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.001821
Consumer - inhalation, long-term - systemic:
Exposure 0.003 mg/m³, DNEL 34 mg/m³, RCR 0.0009
PC9c Finger paints
Consumer - dermal, long-term - systemic:
Exposure 3.0348 mg/m³, DNEL 10 mg/m³, RCR 0.303477
Consumer - inhalation, long-term - systemic:
Exposure 0.0022 mg/m³, DNEL 34 mg/kg/day, RCR 0.000063

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Exposure scenario
Use in Cleaning Agents - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Industrial
Process scope	Covers the use as a component of cleaning products, including transfer from storage, pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC6b Industrial use of reactive processing aids.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Workers - Health 1)

Use in Cleaning Agents - Industrial

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use in Cleaning Agents - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 20 mg/m³, RCR 0.5007
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098

Use in Cleaning Agents - Industrial

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Cleaning Agents - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Professional
Process scope	Covers the use as a component of cleaning products, including pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand).
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Use in Cleaning Agents - Professional

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur. PROC11 Spraying outside industrial settings and/or applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the direction of airflow is clearly away from the worker.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC11 Spraying outside industrial settings and/or applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Cleaning Agents - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 29.5726 mg/m³, DNEL 67.5 mg/m³, RCR 0.438112
PROC11 Spraying outside industrial settings and/or applications.
Worker - dermal, long-term - systemic:
Exposure 2.4 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.12
Worker - inhalation, long-term - systemic:
Exposure 2.69 mg/m³, DNEL 67.5 mg/m³, RCR 0.039852
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra http://www.tno.nl and search for riskofderm. https://www.stoffenmanager.nl/default.aspx Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Cleaning Agents - Consumer

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
ESB skráarnúmer	603-096-00-8
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Consumer
Process scope	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.
Product category	PC35 Washing and cleaning products (including solvent-based products).
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 5%

Amounts used

Use in Cleaning Agents - Consumer

Amount per use: 19 g

Frequency and duration of use

Covers daily exposure up to 4klukkutímar

Other given operational conditions affecting Non-industrial exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Covers use under typical household ventilation.
	Release area: 220000 cm²

3. Exposure estimation (Health 1)

Assessment method	ECETOC TRA Consumer ConsExpo v4.1
Exposure	Consumer - dermal, long-term - systemic: Exposure 6.1538 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.615385 Consumer - inhalation, long-term - systemic: Exposure 0.0535 mg/m³, DNEL 34 mg/m³, RCR 0.001573
	Worst case assumption

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Exposure scenario
Use in Metal working fluids / rolling oils - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Metal working fluids / rolling oils - Industrial
Process scope	Covers the use in formulated MWFs/rolling oils, including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
Worker	

Use in Metal working fluids / rolling oils - Industrial

Process category

PROC1 Use in closed process, no likelihood of exposure.
PROC2 Use in closed, continuous process with occasional controlled exposure.
PROC3 Use in closed batch process (synthesis or formulation).
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
PROC7 Spraying in industrial settings and applications.
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
PROC10 Roller application or brushing of adhesive and other coating.
PROC13 Treatment of articles by dipping and pouring.
PROC17 Lubrication at high energy conditions and in partly open process.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. PROC7 Spraying in industrial settings and applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m).

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

Use in Metal working fluids / rolling oils - Industrial

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC7 Spraying in industrial settings and applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Metal working fluids / rolling oils - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 20 mg/m³, RCR 0.5007
PROC7 Spraying in industrial settings and applications.
Worker - inhalation, long-term - systemic:
Exposure 9.62 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.481
Worker - inhalation, long-term - systemic:
Exposure 5.93 mg/m³, DNEL 67.5 mg/m³, RCR 0.087852
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC13 Treatment of articles by dipping and pouring.

Use in Metal working fluids / rolling oils - Industrial

Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC17 Lubrication at high energy conditions and in partly open process.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 40.5567 mg/m³, DNEL 67.5 mg/m³, RCR 0.60084

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Metal working fluids / rolling oils - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Metal working fluids / rolling oils - Professional
Process scope	Covers the use in formulated MWFs/rolling oils, including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems.
Worker	

Use in Metal working fluids / rolling oils - Professional

Process category

PROC1 Use in closed process, no likelihood of exposure.
PROC2 Use in closed, continuous process with occasional controlled exposure.
PROC3 Use in closed batch process (synthesis or formulation).
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
PROC10 Roller application or brushing of adhesive and other coating.
PROC11 Spraying outside industrial settings and/or applications.
PROC13 Treatment of articles by dipping and pouring.
PROC17 Lubrication at high energy conditions and in partly open process.
PROC19 Hand-mixing with intimate contact and only PPE available.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Nær yfir styrkleika allt að 100 %. Unless otherwise stated.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur. PROC11 Spraying outside industrial settings and/or applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the direction of airflow is clearly away from the worker.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. PROC19 Hand-mixing with intimate contact and only PPE available. Avoid carrying out activities involving exposure for more than 1 hour. Limit the substance content in the product to 25%.

Risk management measures

Use in Metal working fluids / rolling oils - Professional

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC11 Spraying outside industrial settings and/or applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Metal working fluids / rolling oils - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC11 Spraying outside industrial settings and/or applications.
Worker - dermal, long-term - systemic:
Exposure 2.4 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.12
Worker - inhalation, long-term - systemic:
Exposure 2.37 mg/m³, DNEL 67.5 mg/m³, RCR 0.03511
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC17 Lubrication at high energy conditions and in partly open process.

Use in Metal working fluids / rolling oils - Professional

Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC19 Hand-mixing with intimate contact and only PPE available.
Worker - dermal, long-term - systemic:
Exposure 8.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.424286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra http://www.tno.nl and search for riskofderm. https://www.stoffenmanager.nl/default.aspx Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Mining chemicals, Mineral Ore Processing - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Mining chemicals, Mineral Ore Processing - Industrial
Process scope	Covers the use of the substance in extraction processes at mining operations, including material transfers, winning and separation activities and substance recovery and disposal.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.

Mining chemicals, Mineral Ore Processing - Industrial

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Mining chemicals, Mineral Ore Processing - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Lubricants - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Lubricants - Industrial
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC7 Industrial use of substances in closed systems.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC7 Spraying in industrial settings and applications. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process. PROC18 Greasing at high energy conditions.

Use in Lubricants - Industrial

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur. PROC7 Spraying in industrial settings and applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.
PROC7 Spraying in industrial settings and applications.
Without local exhaust ventilation
Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC7 Spraying in industrial settings and applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Lubricants - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 20 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC7 Spraying in industrial settings and applications.
Worker - dermal, long-term - systemic:
Exposure 9.62 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.481
Worker - inhalation, long-term - systemic:
Exposure 5.93 mg/m³, DNEL 67.5 mg/m³, RCR 0.087852
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC17 Lubrication at high energy conditions and in partly open process.
Worker - dermal, long-term - systemic:

Use in Lubricants - Industrial

Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 13.5189 mg/m³, DNEL 67.5 mg/m³, RCR 0.20028
PROC18 Greasing at high energy conditions.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 13.5189 mg/m³, DNEL 67.5 mg/m³, RCR 0.20028

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Lubricants - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Lubricants - Professional
Process scope	Covers the use as a component of cleaning products, including pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand).
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process. PROC18 Greasing at high energy conditions. PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.

Use in Lubricants - Professional

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur. PROC11 Spraying outside industrial settings and/or applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the direction of airflow is clearly away from the worker.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.
PROC11 Spraying outside industrial settings and/or applications.
Without local exhaust ventilation
Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC11 Spraying outside industrial settings and/or applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Lubricants - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC11 Spraying outside industrial settings and/or applications.
Worker - dermal, long-term - systemic:
Exposure 2.4 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.12
Worker - inhalation, long-term - systemic:
Exposure 2.37 mg/m³, DNEL 67.5 mg/m³, RCR 0.035111
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC17 Lubrication at high energy conditions and in partly open process.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC18 Greasing at high energy conditions.
Worker - dermal, long-term - systemic:

Use in Lubricants - Professional

Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.
Worker - dermal, long-term - systemic:
Exposure 1.7143 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.085714
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra http://www.tno.nl and search for riskofderm. https://www.stoffenmanager.nl/default.aspx Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Lubricants - Consumer

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
ESB skráarnúmer	603-096-00-8
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Lubricants - Consumer
Process scope	Covers the consumer use of formulated lubricants in closed and open systems, including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Product category	PC24 Lubricants, greases and release products.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 10%

Frequency and duration of use

Use in Lubricants - Consumer

Covers frequency up to 10 days/year, , .
Application duration: 4 klukkutímar

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Covers use under typical household ventilation.

Release area: 100000 cm²

3. Exposure estimation (Health 1)

Assessment method ECETOC TRA Consumer ConsExpo v4.1

Exposure Consumer - dermal, long-term - systemic:
Exposure 4.0464 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.404636
Consumer - inhalation, long-term - systemic:
Exposure 0.1345 mg/m³, DNEL 34 mg/m³, RCR 0.003955

Worst case assumption

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Exposure scenario
Use in Agrochemicals - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Agrochemicals - Professional
Process scope	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging, including equipment clean-downs and disposal.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.

Use in Agrochemicals - Professional

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur. PROC11 Spraying outside industrial settings and/or applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the direction of airflow is clearly away from the worker.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.
PROC11 Spraying outside industrial settings and/or applications.
Without local exhaust ventilation
Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC11 Spraying outside industrial settings and/or applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Use in Agrochemicals - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC11 Spraying outside industrial settings and/or applications.
Worker - dermal, long-term - systemic:
Exposure 9.62 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.481
Worker - inhalation, long-term - systemic:
Exposure 5.93 mg/m³, DNEL 67.5 mg/m³, RCR 0.087852
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra http://www.tno.nl and search for riskofderm. https://www.stoffenmanager.nl/default.aspx Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Agrochemicals - Consumer

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
ESB skráarnúmer	603-096-00-8
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Agrochemicals - Consumer
Process scope	Covers the consumer use in agrochemicals in liquid and solid forms.
Product category	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 3%

Frequency and duration of use

Use in Agrochemicals - Consumer

Covers daily exposure up to 4klukkutímar

Other given operational conditions affecting Non-industrial exposure

Temperature Assumes activities are at ambient temperature (unless stated differently).

Release area: 150 m²

Other given operational conditions affecting Non-industrial exposure

Application area For each use event, avoid swallowing amounts more than 0.15 g.

3. Exposure estimation (Health 1)

Assessment method ECETOC TRA Consumer ConsExpo v4.1

Exposure PC12 Lawn and garden preparations (- fertilizers).
Consumer - dermal, long-term - systemic:
Exposure 3.8462 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.384615
Consumer - inhalation, long-term - systemic:
Exposure 2.3679 mg/m³, DNEL 34 mg/m³, RCR 0.069644
Consumer - oral, long-term - systemic:
Exposure 0.0692 mg/kg/day, DNEL 1.25 mg/kg/day, RCR 0.055385
PC27 Plant protection products.
Consumer - dermal, long-term - systemic:
Exposure 3.8462 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.384615
Consumer - inhalation, long-term - systemic:
Exposure 2.3679 mg/m³, DNEL 34 mg/m³, RCR 0.069644
Consumer - oral, long-term - systemic:
Exposure 0.0692 mg/kg/day, DNEL 1.25 mg/kg/day, RCR 0.055385

Worst case assumption

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Exposure scenario
Use in Functional Fluids - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Functional Fluids - Industrial
Process scope	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment, including maintenance and related material transfers.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC7 Industrial use of substances in closed systems.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Use in Functional Fluids - Industrial

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use in Functional Fluids - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Functional Fluids - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Functional Fluids - Professional
Process scope	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment, including maintenance and related material transfers.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.

Use in Functional Fluids - Professional

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use in Functional Fluids - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.
Worker - dermal, long-term - systemic:
Exposure 1.7143 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.085714
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Functional Fluids - Consumer

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
ESB skráarnúmer	603-096-00-8
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Functional Fluids - Consumer
Process scope	Covers the consumer use of formulated lubricants in closed and open systems, including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Product category	PC16 Heat transfer fluids. PC17 Hydraulic fluids.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 50%

Use in Functional Fluids - Consumer

Frequency and duration of use

Covers frequency up to 4 days/year, , .
Application duration: 80 mínútur

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Covers use under typical household ventilation.

Release area: 100000 cm²

3. Exposure estimation (Health 1)

Assessment method ECETOC TRA Consumer ConsExpo v4.1

Exposure PC16 Heat transfer fluids.
Consumer - dermal, long-term - systemic:
Exposure 5.058 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.505796
Consumer - inhalation, long-term - systemic:
Exposure 0.0815 mg/m³, DNEL 34 mg/m³, RCR 0.002398
PC17 Hydraulic fluids.
Consumer - dermal, long-term - systemic:
Exposure 5.058 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.505796
Consumer - inhalation, long-term - systemic:
Exposure 0.0815 mg/m³, DNEL 34 mg/m³, RCR 0.002398

Worst case assumption

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Exposure scenario
Use in Water treatment chemicals - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Water treatment chemicals - Industrial
Process scope	Covers the use of the substance for the treatment of water at industrial facilities in closed or contained systems, including incidental exposures during material transfers and equipment cleaning.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.

Use in Water treatment chemicals - Industrial

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use in Water treatment chemicals - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Water treatment chemicals - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Water treatment chemicals - Professional
Process scope	Covers the use of the substance for the treatment of water in open and closed systems.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Use in Water treatment chemicals - Professional

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use in Water treatment chemicals - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC13 Treatment of articles by dipping and pouring.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Water treatment chemicals - Consumer

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
ESB skráarnúmer	603-096-00-8
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Water treatment chemicals - Consumer
Process scope	Covers the use of the substance for the treatment of water in open and closed systems.
Product category	PC37 Water treatment chemicals.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 20%

Frequency and duration of use

Covers daily exposure up to 4klukkutímar

Use in Water treatment chemicals - Consumer

Other given operational conditions affecting Non-industrial exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Covers use under typical household ventilation.
	Release area: 200000 cm²

3. Exposure estimation (Health 1)

Assessment method	ECETOC TRA Consumer ConsExpo v4.1
Exposure	Consumer - dermal, long-term - systemic: Exposure 6.1538 mg/kg/day, DNEL 10 mg/kg/day, RCR 0.615385 Consumer - inhalation, long-term - systemic: Exposure 6.3144 mg/m³, DNEL 34 mg/m³, RCR 0.185717 Consumer - oral, long-term - systemic: Exposure 0.0005 mg/kg/day, DNEL 1.25 mg/kg/day, RCR 0.000379
	Worst case assumption

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Exposure scenario
Use in laboratories - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in laboratories - Industrial
Process scope	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.

Worker

Process category	PROC10 Roller application or brushing of adhesive and other coating. PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).

Use in laboratories - Industrial

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Exposure PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC15 Use as laboratory reagent.
Worker - dermal, long-term - systemic:
Exposure 0.3429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.017143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in laboratories - Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in laboratories - Professional
Process scope	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems.

Worker

Process category	PROC10 Roller application or brushing of adhesive and other coating. PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).

Use in laboratories - Professional

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Exposure PROC10 Roller application or brushing of adhesive and other coating.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC15 Use as laboratory reagent.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use in Cosmetics - Consumer

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
ESB skráarnúmer	603-096-00-8
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Cosmetics - Consumer
Process scope	Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: for cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.
Product category	PC28 Perfumes, fragrances. PC39 Cosmetics, personal care.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

In accordance to the Article 14 (5b) of the REACH Regulation (EC) No 1907/2006, exposure estimation and risk characterisation for human health does not need to be performed for end uses in cosmetic products within the scope of Directive 76/768/EEC.

4. Guidance to check compliance with the exposure scenario (Health 1)

Use in Cosmetics - Consumer

For scaling see http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Exposure scenario
Fire foam - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Fire foam - Industrial
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC7 Spraying in industrial settings and applications. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Fire foam - Industrial

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. PROC7 Spraying in industrial settings and applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the direction of airflow is clearly away from the worker.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC7 Spraying in industrial settings and applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Fire foam - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC7 Spraying in industrial settings and applications.
Worker - dermal, long-term - systemic:
Exposure 0.1 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.005
Worker - inhalation, long-term - systemic:
Exposure 0.71 mg/m³, DNEL 67.5 mg/m³, RCR 0.010519
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Fire foam -Professional

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Fire foam -Professional
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8d Wide dispersive outdoor use of processing aids in open systems.

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC11 Spraying outside industrial settings and/or applications.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Fire foam -Professional

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur. PROC11 Spraying outside industrial settings and/or applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC11 Spraying outside industrial settings and/or applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Fire foam -Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 50.6958 mg/m³, DNEL 67.5 mg/m³, RCR 0.75105
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC11 Spraying outside industrial settings and/or applications.
Worker - dermal, long-term - systemic:
Exposure 0.1 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.005
Worker - inhalation, long-term - systemic:
Exposure 0.71 mg/m³, DNEL 67.5 mg/m³, RCR 0.010519

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra http://www.tno.nl and search for riskofderm. https://www.stoffenmanager.nl/default.aspx Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Use as an intermediate - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as an intermediate - Industrial
Process scope	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC6a Industrial use resulting in manufacture of another substance (use of intermediates).

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.

Use as an intermediate - Industrial

Concentration details Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as an intermediate - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.
Worker - dermal, long-term - systemic:
Exposure 0.0343 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.001714
Worker - inhalation, long-term - systemic:
Exposure 0.0676 mg/m³, DNEL 67.5 mg/m³, RCR 0.001001
PROC2 Use in closed, continuous process with occasional controlled exposure.
Worker - dermal, long-term - systemic:
Exposure 1.3714 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.068571
Worker - inhalation, long-term - systemic:
Exposure 6.7594 mg/m³, DNEL 67.5 mg/m³, RCR 0.10014
PROC3 Use in closed batch process (synthesis or formulation).
Worker - dermal, long-term - systemic:
Exposure 0.6857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.034286
Worker - inhalation, long-term - systemic:
Exposure 20.2783 mg/m³, DNEL 67.5 mg/m³, RCR 0.30042
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 47.3161 mg/m³, DNEL 67.5 mg/m³, RCR 0.70098
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
Worker - dermal, long-term - systemic:
Exposure 2.7429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.137143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
Worker - dermal, long-term - systemic:
Exposure 6.8571 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.342857
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007
PROC15 Use as laboratory reagent.
Worker - dermal, long-term - systemic:
Exposure 0.3429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.017143
Worker - inhalation, long-term - systemic:
Exposure 33.7972 mg/m³, DNEL 67.5 mg/m³, RCR 0.5007

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure scenario
Surface and adhesive technologies - Industrial

Identification

Product name	Butyl Diglycol
REACH skráningarnúmer	01-2119475104-44-XXXX
CAS númer	112-34-5
EB númer	203-961-6
Birgi	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Surface and adhesive technologies - Industrial
Process scope	Covers the use as binders and release agents, including material transfers, mixing, application by spraying, brushing and handling of waste.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC6a Industrial use resulting in manufacture of another substance (use of intermediates). ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.

Worker

Process category	PROC7 Spraying in industrial settings and applications. PROC17 Lubrication at high energy conditions and in partly open process. PROC19 Hand-mixing with intimate contact and only PPE available. PROC22 Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting PROC25 Other hot work operations with metals

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Nær yfir styrkleika allt að 100 %.

Frequency and duration of use

Surface and adhesive technologies - Industrial

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear 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 the nature of exposure 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; consider the need for health surveillance; identify and implement corrective actions. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. PROC7 Spraying in industrial settings and applications. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m).

Risk management measures

Use suitable eye protection and gloves.
notaðu öndunargrímu sem veitir lágmarksvirkni upp á (%): 90

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC7 Spraying in industrial settings and applications. RISKOFDERM v2.1 Stoffenmanager v4.0

Surface and adhesive technologies - Industrial

Exposure

PROC7 Spraying in industrial settings and applications.
Worker - inhalation, long-term - systemic:
Exposure 9.62 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.481
Worker - inhalation, long-term - systemic:
Exposure 5.93 mg/m³, DNEL 67.5 mg/m³, RCR 0.087852
PROC17 Lubrication at high energy conditions and in partly open process.
Worker - dermal, long-term - systemic:
Exposure 5.4857 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.274286
Worker - inhalation, long-term - systemic:
Exposure 9.4632 mg/m³, DNEL 67.5 mg/m³, RCR 0.140196
PROC19 Hand-mixing with intimate contact and only PPE available.
Worker - dermal, long-term - systemic:
Exposure 14.1429 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.707143
Worker - inhalation, long-term - systemic:
Exposure 4.7316 mg/m³, DNEL 67.5 mg/m³, RCR 0.070098
PROC22 Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
Worker - dermal, long-term - systemic:
Exposure 2.8286 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.141429
Worker - inhalation
Qualitative approach used to conclude safe use.
PROC25 Other hot work operations with metals
Worker - dermal, long-term - systemic:
Exposure 0.2829 mg/kg/day, DNEL 20 mg/kg/day, RCR 0.014143
Worker - inhalation
Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see http://www.ecetoc.org/tra https://www.stoffenmanager.nl/default.aspx http://www.tno.nl and search for riskofderm. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.