

Sigurnosno-Tehnički List

ODJELJAK 1. Identifikacija tvari/smjese i podaci o tvrtki/poduzeću

1.1. Identifikacijska oznaka proizvoda

Kod: 122 LS

1.2. Relevantne identificirane uporabe tvari ili smjese i uporabe koje se ne preporučuju

Namjena: Sjajna, mineralna smjesa za izravnavanje na bazi vapna

| Utvrđena korišćenja | Industrijski | Profesionalni | Potrošački |
|----------------------------|--------------|---------------|------------|
| Zaštita građevinskih djela | - | ✓ | - |

1.3. Podaci o dobavljaču koji isporučuje sigurnosno-tehnički list

Naziv: FASSA S.r.l.
 Adresa: via Lazzaris, 3
 Mjesto i Država: 31027 Spresiano (TV) ITALIA
 tel. +39 (0)422 7222
 Fax +39 (0)422 887509

Adresa e-pošte nadležne osobe,
 odgovorne za sigurnosno-tehnički list: laboratorio.spresiano@fassabortolo.it

1.4. Broj telefona za izvanredna stanja

Za hitne informacije obratiti se na:
 Osp. Niguarda Ca" Granda (MILANO): +39 02.66101029
 Osp. Pediatrico Bambino Gesù (ROMA): +39 06.68593726
 Osp. Univ. Foggia (FOGGIA): +39 0881.732326
 Osp. A. Cardarelli (NAPOLI): +39 081.7472870
 Policlinico Umberto I (ROMA): +39 06.49978000
 Policlinico A. Gemelli (ROMA): +39 06.3054343
 Osp. Careggi U.O. Tossicologia (FIRENZE): +39 055.7947819
 Centro nazionale di informazione tossicologica (PAVIA): +39 0382.24444
 Az. Osp. Papa Giovanni XXII (BERGAMO): 800883300

ODJELJAK 2. Identifikacija opasnosti

2.1. Razvrstavanje tvari ili smjese

Proizvod je klasificiran kao opasan temeljem odredbi navedenih u Uredbi (EZ) br. 1272/2008 (CLP) i naknadnim izmjenama i dopunama).
 Stoga proizvod zahtjeva sigurnosno-tehnički u skladu s odredbama Uredbe (EZ) br. 1907/2006 i naknadnim izmjenama.
 Dodatne informacije koje se odnose na rizike po zdravlje i/ili okoliš navedene su u odjeljku 11 i 12 ovog sigurnosno-tehničkog lista.

Klasifikacija opasnosti i oznaka upozorenja:

| | | |
|-----------------------------------|------|-----------------------------|
| Teška ozljeda oka, 1 kategorija | H318 | Uzrokuje teške ozljede oka. |
| Nadražujuće za kožu, 2 kategorija | H315 | Nadražuje kožu. |

2.2. Elementi označavanja

Označavanje opasnosti temeljem Uredbe (EZ) br. 1272/2008 (CLP) i naknadnih izmjena i dopuna.

Piktogrami opasnosti:



Signalne riječi: Opasnost

Oznake opasnosti:

| | |
|------|-----------------------------|
| H318 | Uzrokuje teške ozljede oka. |
| H315 | Nadražuje kožu. |

ODJELJAK 2. Identifikacija opasnosti ... / >>

Oznake opreza:

| | |
|------------------|---|
| P264 | Nakon upotrebe temeljito oprati s vodom |
| P280 | Nositi zaštitne rukavice i zaštitu za oči / lice. |
| P302+P352 | U SLUČAJU DODIRA S KOŽOM: oprati velikom količinom vode / . . . |
| P310 | Odmah nazvati CENTAR ZA KONTROLU OTROVANJA / liječnika / . . . |
| P501 | Odložiti sadržaj/spremnik u skladu sa nacionalnim propisima |

Sadržava: Hidratizirano vapno

2.3. Ostale opasnosti

Prema dostupnim podacima proizvod ne sadrži PBT tvari ili vPvB tvari u postotku većem od 0,1%.

ODJELJAK 3. Sastav/informacije o sastojcima
3.1. Tvari

Informacija nije važna

3.2. Smjese
Sadržava:

| Identificiranje | x = Konc. % | Klasifikacija 1272/2008 (CLP) |
|--------------------------------|------------------|---|
| Hidratizirano vapno | | |
| CAS 1305-62-0 | $10 \leq x < 20$ | Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335 |
| EZ 215-137-3 | | |
| INDEX | | |
| Br. Reg. 01-2119475151-45-0201 | | |

Puni tekst H oznaka naveden je u Odjeljku 16 lista.

ODJELJAK 4. Mjere prve pomoći
4.1. Opis mjera prve pomoći

OČI: Uklonite kontaktne leće ako postoje. Odmah isperite oči većom količinom vode barem 15 minuta, držeći kapke širom otvorenima.

UKOLIKO SE PROBLEM NASTAVI, obratite se liječniku.

KOŽA: Skinite sa sebe kontaminiranu odjeću. Odmah se operite većom količinom vode. Ako se iritacija nastavi, obratite se liječniku. Operite kontaminiranu odjeću prije ponovne uporabe.

UDISANJE: Izvesti osobu na svjež zrak. Ako je disanje otežano, odmah se obratite liječniku.

GUTANJE: Odmah se obratite liječniku. Izazvati povraćanje samo prema uputama liječnika. Oralno nemojte davati ništa ako je osoba bez svijesti, osim ako je to liječnik odobrio.

4.2. Najvažniji simptomi i učinci, akutni i odgođeni

Specifične informacije o simptomima i učincima koje proizvod uzrokuje nisu poznate.

4.3. Navod o slučaju potrebe za hitnom liječničkom pomoći i posebnom obradom

Informacija nije dostupna

ODJELJAK 5. Mjere gašenja požara
5.1. Sredstva za gašenje
PRIKLADNA SREDSTVA ZA GAŠENJE

Sredstva za gašenje trebaju biti tradicionalna: ugljikov dioksid, pjena, prah i vodeni sprej.

SREDSTVA KOJA NISU PRIKLADNA ZA GAŠENJE

Nemojte upotrebljavati vodeni mlaz. Voda nije efikasna u gašenju požara, ali ipak se može upotrebljavati za hlađenje zatvorenih spremnika izloženih plamenu i na taj način izbjeći eksplozije.

5.2. Posebne opasnosti koje proizlaze iz tvari ili smjese
OPASNOSTI UZROKOVANE IZLOŽENOŠĆU U SLUČAJU POŽARA

U spremnicima izloženim vatri može se stvoriti preveliki tlak uz opasnost od eksplozije. Nemojte udisati proizvode izgaranja.

ODJELJAK 5. Mjere gašenja požara ... / >>
5.3. Savjeti za gasitelje požara
OPĆE INFORMACIJE

Spremnike rashladite vodenim mlazom kako bi se spriječilo raspadanje proizvoda i stvaranje tvari koje su potencijalno opasne po zdravlje. Uvijek nosite kompletnu protupožarnu opremu. Prikupite vodu kojom se gasio požar kako ne bi otekla u kanalizaciju. Kontaminiranu vodu koja je upotrijebljena za gašenje i ostatke poslije požara odložite u skladu s važećim propisima.

SPECIJALNA ZAŠTITNA OPREMA ZA VATROGASCE

Uobičajena vatrogasna odjeća, npr. vatrogasni komplet (HRN EN 469), rukavice (HRN EN 659) i čizme (HO specifikacija A29 i A30) u kombinaciji sa samostalnim uređajem za disanje otvorenog kruga s komprimiranim zrakom pozitivnog tlaka (HRN EN 137).

ODJELJAK 6. Mjere kod slučajnog ispuštanja
6.1. Osobne mjere opreza, zaštitna oprema i postupci za izvanredna stanja

U slučaju da se pare ili prah rasprše po zraku, upotrijebite opremu za disanje. Ove se naznake odnose kako na proizvodno osoblje, tako i na one koji su uključeni u hitne postupke.

6.2. Mjere zaštite okoliša

Proizvod ne smije prodrijeti u kanalizaciju ili doći u dodir s površinskim ili podzemnim vodama.

6.3. Metode i materijal za sprečavanje širenja i čišćenje

Ogradite zemljom ili inertnim materijalom. Prikupite što više materijala, a ostatak odstranite mlazovima vode. Kontaminirani materijal treba odložiti u skladu s odredbama navedenima u točki 13.

6.4. Uputa na druge odjeljke

Informacije koje se odnose na osobnu zaštitu i odlaganje navedene su u odjeljcima 8 i 13.

ODJELJAK 7. Rukovanje i skladištenje
7.1. Mjere opreza za sigurno rukovanje

Prije rukovanja proizvodom, pročitajte sve odjeljke sigurnosno-tehničkog lista ovog materijala. Izbjegavajte curenje proizvoda u okoliš. Tijekom upotrebe nemojte jesti, piti niti pušiti.

Proizvod za profesionalnu uporabu. Prije uporabe uvijek proučiti sigurnosno-tehnički list proizvoda. Tijekom uporabe dobro prozračivati prostore.

7.2. Uvjeti sigurnog skladištenja, uzimajući u obzir moguće inkompatibilnosti

Držite proizvod u jasno označenim spremnicima. Držite spremnike podalje od bilo kakvih nekompatibilnih materijala. Detalje potražite u odjeljku 10.

7.3. Posebna krajnja uporaba ili uporabe

Informacija nije dostupna

ODJELJAK 8. Nadzor nad izloženošću/osobna zaštita
8.1. Nadzorni parametri

Propisane referencije:

| | | |
|-----|----------------|---|
| ESP | España | INSHT - Límites de exposición profesional para agentes químicos en España 2015 |
| FRA | France | JORF n°0109 du 10 mai 2012 page 8773 texte n° 102 |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits |
| GRC | Ελλάδα | ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012 |
| HUN | Magyarország | 50/2011. (XII. 22.) NGM rendelet a munkahelyek kémiai biztonságáról |
| NLD | Nederland | Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18 |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 20. júna 2007 |
| EU | OEL EU | Direktiva (EU) 2017/164; Direktiva 2009/161/EU; Direktiva 2006/15/EZ; Direktiva 2004/37/EZ; Direktiva 2000/39/EZ; Direktiva 91/322/EEZ. |
| | TLV-ACGIH | ACGIH 2016 |

ODJELJAK 8. Nadzor nad izloženosti/osobna zaštita ... / >>
Hidratizirano vapno
Granična vrijednost praga

| Vrsta | Država | TWA/8h | | STEL/15min | |
|-----------|--------|--------|-----|------------|-----|
| | | mg/m3 | ppm | mg/m3 | ppm |
| VLA | ESP | 5 | | | |
| VLEP | FRA | 5 | | | |
| WEL | GBR | 5 | | | |
| TLV | GRC | 5 | | | |
| AK | HUN | 5 | | | |
| MAC | NLD | 5 | | | |
| NPHV | SVK | 5 | | | |
| OEL | EU | 1 | | | |
| TLV-ACGIH | | 5 | | | |

Predviđena koncentracija bez učinka na okoliš - PNEC

| | | |
|---|------|-------|
| Uobičajena vrijednost u slatkoj vodi | 0,49 | mg/l |
| Uobičajena vrijednost za morsku vodu | 0,32 | mg/l |
| Uobičajena vrijednost za mikroorganizme STP | 3 | mg/l |
| Uobičajena vrijednost za kopneni odjeljak | 1080 | mg/kg |

Zdravlje - Izvedena razina bez učinka - DNEL/DMEL

| Način izloženosti | Učinci na potrošače | | Kronični lokalni | Kronični sistemski | Učinci na radnike | | Kronični i lokalni | Kronični sistemski |
|-------------------|---------------------|------------------|------------------|--------------------|-------------------|------------------|--------------------|--------------------|
| | Akutni lokalni | Akutni sistemski | | | Akutni lokalni | Akutni sistemski | | |
| Udisanje | 4 | 4 | 1 | 1 | 4 | 4 | 1 | 1 |
| | mg/m3 | | mg/m3 | | mg/m3 | | mg/m3 | |

Legenda:

(C) = PLAFON ; INHAL = inhalabilna frakcija ; RESP = respirabilna frakcija ; THORA = torakalna frakcija.

VND = prepoznata opasnost, ali DNEL/PNEC nije na raspolaganju ; NEA = ne očekuje se izloženost ; NPI = nema prepoznatih opasnosti.

8.2. Nadzor nad izloženosti

Budući da provedba odgovarajućih tehničkih mjera treba uvijek imati prednost u odnosu na opremu za osobnu zaštitu, osigurajte dobro prozračivanje radnog mjesta s pomoću dobrog lokalnog usisavanja.

Kad birate osobnu zaštitnu opremu, potražiti savjet od svojeg dobavljača kemijskih proizvoda.

Oprema za osobnu zaštitu mora nositi CE oznaku kojom se potvrđuje njezina suglasnost s važećim normama.

Osigurati tuš za izvanredne slučajeve s kadicom za lice i oči.

ZAŠTITA RUKU

Zaštite ruke radnim rukavicama kategorije III (pogledajte normu EN 374).

Radi konačnog odabira materijala za radne rukavice treba imati u vidu: kompatibilnost, oštećenje, vrijeme kidanja i propusnost.

Otpornost radnih rukavica na kemijska sredstva treba provjeriti prije upotrebe, budući da može biti nepredvidiva. Vrijeme habanja rukavica ovisi o trajanju i vrsti upotrebe.

ZAŠTITA KOŽE

Nosite radnu odjeću s dugim rukavima i zaštitnu obuću za profesionalnu upotrebu kategorije II (pogledajte Direktivu 89/686/EEZ i normu HRN EN ISO 20344). Nakon skidanja zaštitne odjeće, operite tijelo vodom i sapunom.

ZAŠTITA OČIJU

Preporučuje se upotreba vizira s kapuljačom ili zaštitnog vizira u kombinaciji sa hermetičkim zaštitnim naočalama (pogledajte normu EN 166).

ZAŠTITA DIŠNIH PUTEVA

U slučaju premašene granične vrijednosti (npr. TLV-TWA) praga tvari ili jedne od tvari prisutne u proizvodu, preporučuje se upotreba maske s filtrom vrste B čija klasa (1, 2 ili 3) treba biti izabrana u skladu s granicom koncentracije u upotrebi. (pogledajte normu EN 14387). U slučaju prisutnosti plinova ili isparenja različitih vrsta i/ili plina ili isparenja s česticama (raspršivači s aerosolom, dimovi, magle itd.) obavezni su kombinirani filtri.

Zaštitne naprave za disanje moraju se upotrebljavati u slučaju da se poduzete tehničke mjere pokažu nedovoljnim za ograničenje izloženosti radnika graničnim vrijednostima uzetim u obzir. Zaštita koju pruža maska je u svakom slučaju ograničena.

U slučaju da je tvar u pitanju bezmirisna ili da je njezin prag mirisa viši od odgovarajućeg TLV-TWA i u hitnom slučaju, nosite uređaj za disanje s komprimiranim zrakom s otvorenim krugom disanja (u skladu s normom HRN EN 137) ili uređaj za disanje s vanjskim dotokom zraka (u skladu s normom HRN EN 138). Radi ispravnog odabira zaštitne naprave za disanje, pogledajte normu HRN EN 529.

NADZOR IZLOŽENOSTI OKOLIŠA

Emisije iz proizvodnih procesa, uključujući i one iz uređaja za ventilaciju, trebale bi biti kontrolirane kako bi se osiguralo poštovanje normi zaštite okoliša.

ODJELJAK 9. Fizikalna i kemijska svojstva
9.1. Informacije o osnovnim fizikalnim i kemijskim svojstvima

Agregatno Stanje
Boja
Miris

kašasto
Karakteristično za svaku boju
karakteristično

ODJELJAK 9. Fizikalna i kemijska svojstva ... / >>

| | |
|--|---------------|
| Prag mirisa | Nije dostupno |
| pH | 11-13 |
| Talište/ledište | Nije dostupno |
| Početna točka vrenja | Nije dostupno |
| Raspon vrenja | Nije dostupno |
| Plamište | > 60 °C |
| Brzina isparavanja | Nije dostupno |
| Zapaljivost kruta tvar i plin | nezapaljivo |
| Donja granica zapaljivosti | Nije dostupno |
| Gornja granica zapaljivosti | Nije dostupno |
| Donja granica eksplozivnosti | Nije dostupno |
| Gornja granica eksplozivnosti | Nije dostupno |
| Tlak pare | Nije dostupno |
| Gustoća Pare | Nije dostupno |
| Relativna gustoća | 1,45-1,55 |
| Topljivost | Nije dostupno |
| Koeficijent Raspodjele: n-oktanol/voda | Nije dostupno |
| Temperatura samozapaljenja | Nije dostupno |
| Temperatura raspada | Nije dostupno |
| Viskoznost | Nije dostupno |
| Eksplozivna svojstva | Nije dostupno |
| Osobine Oksidansa | Nije dostupno |

9.2. Ostale informacije

Gornja granica vrijednosti hlapivih organskih spojeva za EU (Direktiva 2004/42/EZ), kategorija A/I, BA: maksimalna razina hlapivih organskih spojeva 200 g/l (siječanj 2010); hlapivi organski spojevi u proizvodu <30 g/l

ODJELJAK 10. Stabilnost i reaktivnost
10.1. Reaktivnost

U uobičajenim uvjetima upotrebe ne postoje posebni rizici od reakcije s drugim tvarima.

10.2. Kemijska stabilnost

Proizvod je stabilan u uobičajenim uvjetima upotrebe i skladištenja.

10.3. Mogućnost opasnih reakcija

U uobičajenim uvjetima upotrebe i skladištenja ne predviđaju nikakve opasne reakcije.

10.4. Uvjeti koje treba izbjegavati

Ništa osobito. Ipak treba poštovati uobičajene mjera opreza za kemijske proizvode.

10.5. Inkompatibilni materijali

Informacija nije dostupna

10.6. Opasni proizvodi raspadanja

Informacija nije dostupna

ODJELJAK 11. Toksikološke informacije
11.1. Informacije o toksikološkim učincima

Metabolizam, toksikokinetika, mehanizam djelovanja i druge informacije

Informacija nije dostupna

Informacije o vjerojatnim načinima izloženosti

Informacija nije dostupna

Odgođeni i neposredni učinci te kronični učinci nakon kratkotrajne i dugotrajne izloženosti

ODJELJAK 11. Toksikološke informacije ... / >>

Informacija nije dostupna

Interaktivni učinci

Informacija nije dostupna

AKUTNA TOKSIČNOST

LC50 (Inhalacija - isparenja) mješavine:
LC50 (inhalacija - magla/prašina) mješavine:
LD50 (Oralno) mješavine:
LD50 (Kožno) mješavine:

Nije klasificirano (nema značajne komponente)
Nije klasificirano (nema značajne komponente)
Nije klasificirano (nema značajne komponente)
Nije klasificirano (nema značajne komponente)

Hidratizirano vapno
LD50 (Oralno)
LD50 (Kožno)

> 2000 mg/kg (Rat, OECD 425)
> 2500 mg/kg (Rabbit, OCSE 402)

NAGRIZANJE / NADRAŽAJ KOŽE

Uzrokuje nadražaj kože

TEŠKO OŠTEĆENJE / NADRAŽAJ OKA

Uzrokuje teško oštećenje oka

OSJETLJIVOST DIŠNIH PUTEVA ILI KOŽE

Ne ispunjava klasifikacijske kriterije za ovu klasu opasnosti

MUTAGENI UČINAK NA STANICU ZAMETKA

Ne ispunjava klasifikacijske kriterije za ovu klasu opasnosti

KANCEROGENOST

Ne ispunjava klasifikacijske kriterije za ovu klasu opasnosti

REPRODUKTIVNA TOKSIČNOST

Ne ispunjava klasifikacijske kriterije za ovu klasu opasnosti

STOT - JEDNOKRATNA IZLOŽENOST

Ne ispunjava klasifikacijske kriterije za ovu klasu opasnosti

STOT - OPETOVANA IZLOŽENOST

Ne ispunjava klasifikacijske kriterije za ovu klasu opasnosti

OPASNOST OD UDISANJA

Ne ispunjava klasifikacijske kriterije za ovu klasu opasnosti

ODJELJAK 12. Ekološke informacije
12.1. Toksičnost

Hidratizirano vapno
LC50 - Marine water fish = 457 mg/l; NOEC = 2000 mg/kg; NOEC = 1080 mg/kg (21d)

| | |
|---------------------------------------|-------------------------------------|
| Hidratizirano vapno | |
| LC50 - za ribe | 50,6 mg/l/96h (pesci d'acqua dolce) |
| EC50 - za rakove | 49,1 mg/l/48h |
| EC50 - za alge / vodene biljke | 184,57 mg/l/72h |
| Kronični NOEC za rakove | 32 mg/l 14d |
| Kronični NOEC za alge / vodene biljke | 48 mg/l 72h |

ODJELJAK 12. Ekološke informacije ... / >>**12.2. Postojanost i razgradivost**

Informacija nije dostupna

12.3. Bioakumulacijski potencijal

Informacija nije dostupna

12.4. Pokretljivost u tlu

Informacija nije dostupna

12.5. Rezultati ocjenjivanja svojstava PBT i vPvB

Prema dostupnim podacima proizvod ne sadrži PBT tvari ili vPvB tvari u postotku većem od 0,1%.

12.6. Ostali štetni učinci

Informacija nije dostupna

ODJELJAK 13. Zbrinjavanje**13.1. Metode obrade otpada**

Ponovno upotrijebiti ukoliko je moguće. S ostacima proizvoda treba postupati kao s posebnim otpadom koji nije opasan. Razinu opasnosti otpada koji sadržava ovaj proizvod treba procijeniti u skladu s važećim propisima.

Odlaganje treba povjeriti poduzeću koje je ovlašteno za gospodarenje otpadom uz poštovanje državnih i lokalnih propisa.

KONTAMINIRANA PAKIRANJA

Kontaminirana pakiranja treba poslati na obnavljanje ili odložiti u skladu s državnim propisima o gospodarenju otpadom.

ODJELJAK 14. Informacije o prijevozu

Proizvod nije opasan prema važećim odredbama Sporazuma o međunarodnom cestovnom prijevozu opasnih tvari (ADR), željeznicom (RID), Kodeksa za međunarodni pomorski prijevoz opasnih tvari (IMDG kodeksa) te propisa Međunarodnog udruženja zračnih prijevoznika (IATA).

14.1. UN broj

Nije primjenljivo

14.2. Pravilno otpremno ime prema UN-u

Nije primjenljivo

14.3. Razred(i) opasnosti pri prijevozu

Nije primjenljivo

14.4. Skupina pakiranja

Nije primjenljivo

14.5. Opasnosti za okoliš

Nije primjenljivo

14.6. Posebne mjere opreza za korisnika

Nije primjenljivo

14.7. Prijevoz u razlivenom stanju u skladu s Prilogom II. Konvenciji MARPOL i Kodeksom IBC

Informacija nije važna

ODJELJAK 15. Informacije o propisima

15.1. Propisi u području sigurnosti, zdravlja i okoliša/posebno zakonodavstvo za tvar ili smjesu

Kategorija Seveso - Direktiva 2012/18/EZ: _____ Ništa

Ograničenja koja se odnose na proizvod ili na sadržane tvari prema Dodatku XVII Uredbe (EZ) 1907/2006

Proizvod

Točka 3

Popis kandidata tvari posebno zabrinjavajućih svojstava za odobrenje (čl. 59 REACH)

Prema postojećim podacima proizvod ne sadrži SVHC tvari u postotku većem od 0,1%

Tvari koje podliježu odobrenju (Dodatak XIV REACH)

Ništa

Tvari koje podliježu uvjetu obavjesti o izvozu temeljem Uredbe (EZ) 649/2012:

Ništa

Tvari koje podliježu Rotterdamskoj konvenciji

Ništa

Tvari koje podliježu Stockholmskoj konvenciji:

Ništa

Sanitarne kontrole

Radnici izloženi ovom kemijskom agensu ne moraju se podvrgnuti zdravstvenoj kontroli pod uvjetom da su na raspolaganju podaci o procjeni rizika koji dokazuju da su rizici po zdravlje i sigurnost radnika skromni i da je Direktiva 98/24/EZ ispoštovana.

15.2. Procjena kemijske sigurnosti

Izvršena je procjena kemijske sigurnosti za sljedeće sadržane tvari:

Hidratizirano vapno

ODJELJAK 16. Ostale informacije

Tekst H oznaka naveden u odjeljku 2-3 sigurnosno-tehničkog lista:

Eye Dam. 1

Teška ozljeda oka, 1 kategorija

Skin Irrit. 2

Nadražujuće za kožu, 2 kategorija

STOT SE 3

Specifična toksičnost za ciljane organe - jednokratno izlaganje, 3 kategorija

H318

Uzrokuje teške ozljede oka.

H315

Nadražuje kožu.

H335

Može nadražiti dišni sustav.

LEGENDA:

- ADR: Europski sporazum o cestovnom prijevozu opasnih tvari
- CAS NUMBER: broj Chemical Abstract Service
- CE50: Efektivna koncentracija (50% učinka)
- CE NUMBER: Identifikacijski broj u ESIS-u (Europska arhiva postojećih tvari)
- CLP: Uredba EZ 1272/2008
- DNEL: Izvedena razina bez učinka
- EmS: Emergency Schedule
- GHS: Globalno harmonizirani sustav za klasificiranje i označavanje kemijskih proizvoda
- IATA DGR: Pravilnik za prijevoz opasnih tvari Međunarodnog udruženja zračnih prijevoznika
- IC50: Koncentracija imobilizacije 50%
- IMDG: Pomorski međunarodni kodeks za prijevoz opasnih tvari
- IMO: International Maritime Organization
- INDEX NUMBER: Identifikacijski broj u Dodatku VI CLP-a
- LC50: Letalna koncentracija 50 %
- LD50: Letalna doza 50 %
- OEL: Razina profesionalne izloženosti
- PBT: Otporan, bioakumulativan i toksičan po REACH-u
- PEC: Predviđena okolišna koncentracija
- PEL: Predviđena razina izloženosti
- PNEC: Predviđena koncentracija bez učinka

ODJELJAK 16. Ostale informacije ... / >>

- REACH: Uredba EZ 1907/2006
- RID: Pravilnik za međunarodni željeznički prijevoz opasnih tvari
- TLV: Granična vrijednost praga
- TLV PLAFON: Koncentracija koja se ne smije prijeći tijekom bilo kojeg trenutka profesionalne izloženosti.
- TWA STEL: Granica izloženosti u kratkom roku
- TWA: Granica prosječne izloženosti
- VOC: hlapljivi organski spojevi
- vPvB: Vrlo otporan i vrlo bioakumulativan po REACH-u
- WGK: Klase opasnosti za vode (Njemačka).

OPĆA BIBLIOGRAFIJA:

1. Uredba (EU) br. 1907/2006 (REACH) Europskog parlamenta
 2. Uredba (EZ) br. 1272/2008 (CLP) Europskog parlamenta
 3. Uredba (EU) br. 790/2009 (I Atp. CLP) Europskog parlamenta
 4. Uredba (EU) br. 2015/830 Europskog parlamenta
 5. Uredba (EU) br. 286/2011 (II Atp. CLP) Europskog parlamenta
 6. Uredba (EU) br. 618/2012 (III Atp. CLP) Europskog parlamenta
 7. Uredba (EU) br. 487/2013 (IV Atp. CLP) Europskog parlamenta
 8. Uredba (EU) br. 944/2013 (V Atp. CLP) Europskog parlamenta
 9. Uredba (EU) br. 605/2014 (VI Atp. CLP) Europskog parlamenta
 10. Uredba (EU) br. 2015/1221 (VII Atp. CLP) Europskog parlamenta
 11. Uredba (EU) br. 2016/918 (VIII Atp. CLP) Europskog parlamenta
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - Mrežna stranica IFA GESTIS
 - Mrežna stranica ECHA
 - Baza podataka modela SDS za kemikalije - Ministarstvo zdravlja i ISS (Viši zdravstveni institut) - Italija

Napomena za korisnika:

informacije koje se nalaze na ovom listu temelje se na znanjima koja su kod nas na raspolaganju s datumom posljednje verzije. Korisnik mora potvrditi prikladnost i potpunost informacije u vezi sa specifičnom uporabom proizvoda. Ovaj dokument ne treba shvatiti kao jamstvo za bilo koje specifično svojstvo proizvoda. Kako uporaba proizvoda nije pod našom izravnom kontrolom, obveza korisnika je da na vlastitu odgovornost poštuje važeće zakone i uredbe u vezi s higijenom i sigurnošću. Proizvođač nije odgovoran za nepravilnu uporabu. Osoblje koje je zaduženo za uporabu kemijskih proizvoda mora dobiti odgovarajuću obuku.

Izmjene u odnosu na prethodnu reviziju:

Napravljene su izmjene u sljedećim odjeljcima:
01 / 02 / 04 / 06 / 08 / 09 / 11 / 15.

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

EXPOSURE SCENARIOS

The current document includes all relevant occupational and environmental exposure scenarios (ES) for the production and use of calcium dihydroxide as required under the REACH Regulation (Regulation (EC) No 1907/2006). For the development of the ES the Regulation and the relevant REACH Guidance have been considered. For the description of the covered uses and processes, the "R.12 – Use descriptor system" guidance (Version: 2, March 2010, ECHA-2010-G-05-EN), for the description and implementation of risk management measures (RMM) the "R.13 – Risk management measures" guidance (Version: 1.1, May 2008), for the occupational exposure estimation the "R.14 – Occupational exposure estimation" guidance (Version: 2, May 2010, ECHA-2010-G-09-EN) and for the actual environmental exposure assessment the "R.16 – Environmental Exposure Assessment" (Version: 2, May 2010, ECHA-10-G-06-EN) was used.

Methodology used for environmental exposure assessment

The environmental exposure scenarios only address the assessment at the local scale, including municipal sewage treatment plants (STPs) or industrial waste water treatment plants (WWTPs) when applicable, for industrial and professional uses as any effects that might occur is expected to take place on a local scale.

1) Industrial uses (local scale)

The exposure and risk assessment is only relevant for the aquatic environment, when applicable including STPs/WWTPs, as emissions in the industrial stages mainly apply to (waste) water. The aquatic effect and risk assessment only deal with the effect on organisms/ecosystems due to possible pH changes related to OH^- discharges. The exposure assessment for the aquatic environment only deals with the possible pH changes in STP effluent and surface water related to the OH^- discharges at the local scale and is performed by assessing the resulting pH impact: the surface water pH should not increase above 9 (In general, most aquatic organisms can tolerate pH values in the range of 6-9).

Risk management measures related to the environment aim to avoid discharging calcium dihydroxide solutions into municipal wastewater or to surface water, in case such discharges are expected to cause significant pH changes. Regular control of the pH value during introduction into open waters is required. Discharges should be carried out such that pH changes in receiving surface waters are minimised. The effluent pH is normally measured and can be neutralised easily, as often required by national laws.

2) Professional uses (local scale)

The exposure and risk assessment is only relevant for the aquatic and terrestrial environment. The aquatic effect and risk assessment is determined by the pH effect. Nevertheless, the classical risk characterisation ratio (RCR), based on PEC (predicted environmental concentration) and PNEC (predicted no effect concentration) is calculated. The professional uses on a local scale refer to applications on agricultural or urban soil. The environmental exposure is assessed based on data and a modelling tool. The modelling FOCUS/ Exposit tool is used to assess terrestrial and aquatic exposure (typically conceived for biocidal applications).

Details and scaling approach indications are reported in the specific scenarios.

Methodology used for occupational exposure assessment

By definition an exposure scenario (ES) has to describe under which operational conditions (OC) and risk management measure (RMMs) the substance can be handled safely. This is demonstrated if the

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

estimated exposure level is below the respective derived no-effect level (DNEL), which is expressed in the risk characterisation ratio (RCR). For workers, the repeated dose DNEL for inhalation as well as the acute DNEL for inhalation are based on the respective recommendations of the scientific committee on occupational exposure limits (SCOEL) being 1 mg/m³ and 4 mg/m³, respectively.

In cases where neither measured data nor analogous data are available, human exposure is assessed with the aid of a modelling tool. At the first tier screening level, the MEASE tool (<http://www.ebrc.de/mease.html>) is used to assess inhalation exposure according to the ECHA guidance (R.14).

Since the SCOEL recommendation refers to respirable dust while the exposure estimates in MEASE reflect the inhalable fraction, an additional safety margin is inherently included in the exposure scenarios below when MEASE has been used to derive exposure estimates.

Methodology used for consumer exposure assessment

By definition an ES has to describe under which conditions the substances, preparation or articles can be handled safely. In cases where neither measured data nor analogous data are available, exposure is assessed with the aid of a modelling tool.

For consumers, the repeated dose DNEL for inhalation as well as the acute DNEL for inhalation are based on the respective recommendations of the Scientific Committee on Occupational Exposure Limits (SCOEL), being 1 mg/m³ and 4 mg/m³, respectively.

For inhalation exposure to powders the data, derived from van Hemmen (van Hemmen, 1992: Agricultural pesticide exposure data bases for risk assessment. Rev Environ Contam Toxicol. 126: 1-85.), has been used to calculate the inhalation exposure. The inhalation exposure for consumers is estimated at 15 µg/hr or 0.25 µg/min. For larger tasks the inhalation exposure is expected to be higher. A factor of 10 is suggested when the product amount exceeds 2.5 kg, resulting in the inhalation exposure of 150 µg/hr. To convert these values in mg/m³ a default value of 1.25 m³/hr for the breathing volume under light working conditions will be assumed (van Hemmen, 1992) giving 12 µg/m³ for small tasks and 120 µg/m³ for larger tasks.

When the preparation or substance is applied in granular form or as tablets, reduced exposure to dust was assumed. To take this into account if data about particle size distribution and attrition of the granule are lacking, the model for powder formulations is used, assuming a reduction in dust formation by 10 % according to Becks and Falks (Manual for the authorisation of pesticides. Plant protection products. Chapter 4 Human toxicology; risk operator, worker and bystander, version 1.0., 2006).

For dermal exposure and exposure to the eye a qualitative approach has been followed, as no DNEL could be derived for this route due to the irritating properties of calcium oxide. Oral exposure was not assessed as this is not a foreseeable route of exposure regarding the uses addressed.

Since the SCOEL recommendation refers to respirable dust while the exposure estimates by the model from van Hemmen reflect the inhalable fraction, an additional safety margin is inherently included in the exposure scenarios below, i.e. the exposure estimates are very conservative.

The exposure assessment of calcium dihydroxide professional and industrial and consumer use is performed and organized based on several scenarios. An overview of the scenarios and the coverage of substance life cycle is presented in Table 1.

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

Table 1: Overview on exposure scenarios and coverage of substance life cycle

| ES number | Exposure scenario title | Manufacture | Identified uses | | | Resulting life cycle stage Service life (for articles) | Linked to Identified Use | Sector of use category (SU) | Chemical Product Category (PC) | Process category (PROC) | Article category (AC) | Environmental release category (ERC) |
|-----------|---|-------------|-----------------|---------|----------|---|--------------------------|---|---|--|------------------------------------|--|
| | | | Formulation | End use | Consumer | | | | | | | |
| 9.1 | Manufacture and industrial uses of aqueous solutions of lime substances | X | X | X | | X | 1 | 3; 1, 2a, 2b, 4, 5, 6a, 6b, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7, 12a, 12b, 10a, 10b, 11a, 11b |
| 9.2 | Manufacture and industrial uses of low dusty solids/powders of lime substances | X | X | X | | X | 2 | 3; 1, 2a, 2b, 4, 5, 6a, 6b, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27a, 27b | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7, 12a, 12b, 10a, 10b, 11a, 11b |
| 9.3 | Manufacture and industrial uses of medium dusty solids/powders of lime substances | X | X | X | | X | 3 | 3; 1, 2a, 2b, 4, 5, 6a, 6b, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 27a, 27b | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7, 12a, 12b, 10a, 10b, 11a, 11b |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| ES number | Exposure scenario title | Manufacture | Identified uses | | | Resulting life cycle stage Service life (for articles) | Linked to Identified Use | Sector of use category (SU) | Chemical Product Category (PC) | Process category (PROC) | Article category (AC) | Environmental release category (ERC) |
|-----------|---|-------------|-----------------|---------|----------|---|--------------------------|---|---|---|------------------------------------|--|
| | | | Formulation | End use | Consumer | | | | | | | |
| 9.4 | Manufacture and industrial uses of high dusty solids/powders of lime substances | X | X | X | | X | 4 | 3; 1, 2a, 2b, 4, 5, 6a, 6b, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 27a, 27b | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7, 12a, 12b, 10a, 11a |
| 9.5 | Manufacture and industrial uses of massive objects containing lime substances | X | X | X | | X | 5 | 3; 1, 2a, 2b, 4, 5, 6a, 6b, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 6, 14, 21, 22, 23, 24, 25 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7, 12a, 12b, 10a, 10b, 11a, 11b |
| 9.6 | Professional uses of aqueous solutions of lime substances | | X | X | | X | 6 | 22; 1, 5, 6a, 6b, 7, 10, 11, 12, 13, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 2, 3, 4, 5, 8a, 8b, 9, 10, 12, 13, 15, 16, 17, 18, 19 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 2, 8a, 8b, 8c, 8d, 8e, 8f |
| 9.7 | Professional uses of low dusty solids/powders of lime substances | | X | X | | X | 7 | 22; 1, 5, 6a, 6b, 7, 10, 11, 12, 13, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 2, 3, 4, 5, 8a, 8b, 9, 10, 13, 15, 16, 17, 18, 19, 21, 25, 26 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 2, 8a, 8b, 8c, 8d, 8e, 8f |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| ES number | Exposure scenario title | Manufacture | Identified uses | | | Resulting life cycle stage Service life (for articles) | Linked to Identified Use | Sector of use category (SU) | Chemical Product Category (PC) | Process category (PROC) | Article category (AC) | Environmental release category (ERC) |
|-----------|---|-------------|-----------------|---------|----------|---|--------------------------|---|---|---|------------------------------------|---|
| | | | Formulation | End use | Consumer | | | | | | | |
| 9.8 | Professional uses of medium dusty solids/powders of lime substances | | X | X | | X | 8 | 22; 1, 5, 6a, 6b, 7, 10, 11, 12, 13, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 2, 3, 4, 5, 8a, 8b, 9, 10, 13, 15, 16, 17, 18, 19, 25, 26 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 2, 8a, 8b, 8c, 8d, 8e, 8f, 9a, 9b |
| 9.9 | Professional uses of high dusty solids/powders of lime substances | | X | X | | X | 9 | 22; 1, 5, 6a, 6b, 7, 10, 11, 12, 13, 16, 17, 18, 19, 20, 23, 24 | 1, 2, 3, 7, 8, 9a, 9b, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 | 2, 3, 4, 5, 8a, 8b, 9, 10, 13, 15, 16, 17, 18, 19, 25, 26 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 2, 8a, 8b, 8c, 8d, 8e, 8f |
| 9.10 | Professional use of lime substances in soil treatment | | X | X | | | 10 | 22 | 9b | 5, 8b, 11, 26 | | 2, 8a, 8b, 8c, 8d, 8e, 8f |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| ES number | Exposure scenario title | Manufacture | Identified uses | | | Resulting life cycle stage Service life (for articles) | Linked to Identified Use | Sector of use category (SU) | Chemical Product Category (PC) | Process category (PROC) | Article category (AC) | Environmental release category (ERC) |
|-----------|---|-------------|-----------------|---------|----------|---|--------------------------|---|-----------------------------------|----------------------------|------------------------------------|---|
| | | | Formulation | End use | Consumer | | | | | | | |
| 9.11 | Professional uses of articles/containers containing lime substances | | | X | | X | 11 | 22; 1, 5, 6a, 6b, 7, 10, 11, 12, 13, 16, 17, 18, 19, 20, 23, 24 | | 0, 21, 24, 25 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 | 10a, 11a, 11b, 12a, 12b |
| 9.12 | Consumer use of building and construction material (DIY) | | | | X | | 12 | 21 | 9b, 9a | | | 8 |
| 9.13 | Consumer use of CO_2 absorbent in breathing apparatuses | | | | X | | 13 | 21 | 2 | | | 8 |
| 9.14 | Consumer use of garden lime/fertilizer | | | | X | | 14 | 21 | 20, 12 | | | 8e |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| ES number | Exposure scenario title | Manufacture | Identified uses | | | Resulting life cycle stage Service life (for articles) | Linked to Identified Use | Sector of use category (SU) | Chemical Category (PC) | Product | Process category (PROC) | Article category (AC) | Environmental release category (ERC) |
|-----------|---|-------------|-----------------|---------|----------|---|--------------------------|--------------------------------|------------------------|---------|-------------------------|-----------------------|--------------------------------------|
| | | | Formulation | End use | Consumer | | | | | | | | |
| 9.15 | Consumer use of lime substances as water treatment chemicals in aquaria | | | | X | | 15 21 | | 20, 37 | | | | 8 |
| 9.16 | Consumer use of cosmetics containing lime substances | | | | X | | 16 21 | | 39 | | | | 8 |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

ES number 9.6: Professional uses of aqueous solutions of lime substances

| Exposure Scenario Format (1) addressing uses carried out by workers | | |
|---|---|---|
| 1. Title | | |
| Free short title | Professional uses of aqueous solutions of lime substances | |
| Systematic title based on use descriptor | SU22, SU1, SU5, SU6a, SU6b, SU7, SU10, SU11, SU12, SU13, SU16, SU17, SU18, SU19, SU20, SU23, SU24 PC1, PC2, PC3, PC7, PC8, PC9a, PC9b, PC11, PC12, PC13, PC14, PC15, PC16, PC17, PC18, PC19, PC20, PC21, PC23, PC24, PC25, PC26, PC27, PC28, PC29, PC30, PC31, PC32, PC33, PC34, PC35, PC36, PC37, PC39, PC40 AC1, AC2, AC3, AC4, AC5, AC6, AC7, AC8, AC10, AC11, AC13 (appropriate PROCs and ERCs are given in Section 2 below) | |
| Processes, tasks and/or activities covered | Processes, tasks and/or activities covered are described in Section 2 below. | |
| Assessment Method | The assessment of inhalation exposure is based on the exposure estimation tool MEASE. The environmental assessment is based on FOCUS-Exposit. | |
| 2. Operational conditions and risk management measures | | |
| PROC/ERC | REACH definition | Involved tasks |
| PROC 2 | Use in closed, continuous process with occasional controlled exposure | Further information is provided in the ECHA Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (ECHA-2010-G-05-EN). |
| PROC 3 | Use in closed batch process (synthesis or formulation) | |
| PROC 4 | Use in batch and other process (synthesis) where opportunity for exposure arises | |
| PROC 5 | Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) | |
| PROC 8a | Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities | |
| PROC 8b | Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at dedicated facilities | |
| PROC 9 | Transfer of substance or preparation into small containers (dedicated filling line, including weighing) | |
| PROC 10 | Roller application or brushing | |
| PROC 11 | Non industrial spraying | |
| PROC 12 | Use of blowing agents in manufacture of foam | |
| PROC 13 | Treatment of articles by dipping and pouring | |
| PROC 15 | Use as laboratory reagent | |
| PROC 16 | Using material as fuel sources, limited exposure to unburned product to be expected | |
| PROC 17 | Lubrication at high energy conditions and in partly open process | |
| PROC 18 | Greasing at high energy conditions | |
| PROC 19 | Hand-mixing with intimate contact and only PPE available | |
| ERC2, ERC8a, ERC8b, ERC8c, ERC8d, ERC8e, ERC8f | Wide dispersive indoor and outdoor use of reactive substances or processing aids in open systems | Calcium dihydroxide is applied in numerous cases of wide dispersive uses: agricultural, forestry, fish and shrimps farming, soil treatment and environmental protection. |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

2.1 Control of workers exposure

Product characteristic

According to the MEASE approach, the substance-intrinsic emission potential is one of the main exposure determinants. This is reflected by an assignment of a so-called fugacity class in the MEASE tool. For operations conducted with solid substances at ambient temperature the fugacity is based on the dustiness of that substance. Whereas in hot metal operations, fugacity is temperature based, taking into account the process temperature and the melting point of the substance. As a third group, high abrasive tasks are based on the level of abrasion instead of the substance intrinsic emission potential. The spraying of aqueous solutions (PROC7 and 11) is assumed to be involved with a medium emission.

| PROC | Use in preparation | Content in preparation | Physical form | Emission potential |
|----------------------|--------------------|------------------------|------------------|--------------------|
| All applicable PROCs | not restricted | | aqueous solution | very low |

Amounts used

The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation (industrial vs. professional) and level of containment/automation (as reflected in the PROC) is the main determinant of the process intrinsic emission potential.

Frequency and duration of use/exposure

| PROC | Duration of exposure |
|----------------------------|------------------------------|
| PROC 11 | ≤ 240 minutes |
| All other applicable PROCs | 480 minutes (not restricted) |

Human factors not influenced by risk management

The shift breathing volume during all process steps reflected in the PROCs is assumed to be 10 m³/shift (8 hours).

Other given operational conditions affecting workers exposure

Since aqueous solutions are not used in hot-metallurgical processes, operational conditions (e.g. process temperature and process pressure) are not considered relevant for occupational exposure assessment of the conducted processes.

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

Risk management measures at the process level (e.g. containment or segregation of the emission source) are generally not required in the processes.

Technical conditions and measures to control dispersion from source towards the worker

| PROC | Level of separation | Localised controls (LC) | Efficiency of LC (according MEASE) | Further information |
|----------------------------|--|-------------------------|------------------------------------|---------------------|
| PROC 19 | Separation of workers from the emission source is generally not required in the conducted processes. | not applicable | na | - |
| All other applicable PROCs | | not required | na | - |

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid inhalation or ingestion. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no eating and smoking at the workplace, the wearing of standard working clothes and shoes unless otherwise stated below. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home. Do not blow dust off with compressed air.

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| Conditions and measures related to personal protection, hygiene and health evaluation | | | | |
|---|---|--|---|--|
| PROC | Specification of respiratory protective equipment (RPE) | RPE efficiency (assigned protection factor, APF) | Specification of gloves | Further protective personal equipment (PPE) |
| PROC 11 | FFP3 mask | APF=20 | Since calcium dihydroxide is classified as irritating to skin, the use of protective gloves is mandatory for all process steps. | Eye protection equipment (e.g. goggles or visors) must be worn, unless potential contact with the eye can be excluded by the nature and type of application (i.e. closed process). Additionally, face protection, protective clothing and safety shoes are required to be worn as appropriate. |
| PROC 17 | FFP1 mask | APF=4 | | |
| All other applicable PROCs | not required | na | | |

Any RPE as defined above shall only be worn if the following principles are implemented in parallel: The duration of work (compare with "duration of exposure" above) should reflect the additional physiological stress for the worker due to the breathing resistance and mass of the RPE itself, due to the increased thermal stress by enclosing the head. In addition, it shall be considered that the worker's capability of using tools and of communicating are reduced during the wearing of RPE.

For reasons as given above, the worker should therefore be (i) healthy (especially in view of medical problems that may affect the use of RPE), (ii) have suitable facial characteristics reducing leakages between face and mask (in view of scars and facial hair). The recommended devices above which rely on a tight face seal will not provide the required protection unless they fit the contours of the face properly and securely.

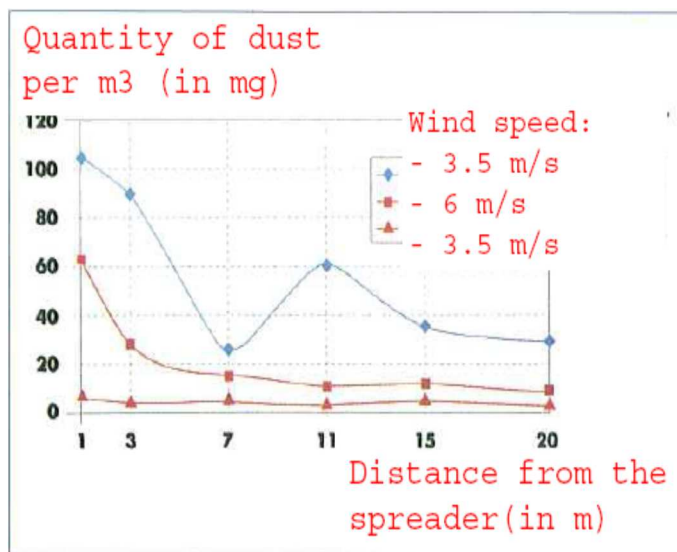
The employer and self-employed persons have legal responsibilities for the maintenance and issue of respiratory protective devices and the management of their correct use in the workplace. Therefore, they should define and document a suitable policy for a respiratory protective device programme including training of the workers.

An overview of the APFs of different RPE (according to BS EN 529:2005) can be found in the glossary of MEASE.

2.2 Control of environmental exposure – only relevant for agricultural soil protection

Product characteristics

Drift: 1% (very worst-case estimate based on data from dust measurements in air as a function of the distance from application)



(Figure taken from: Laudet, A. et al., 1999)

Amounts used

Ca(OH)_2 2,244 kg/ha

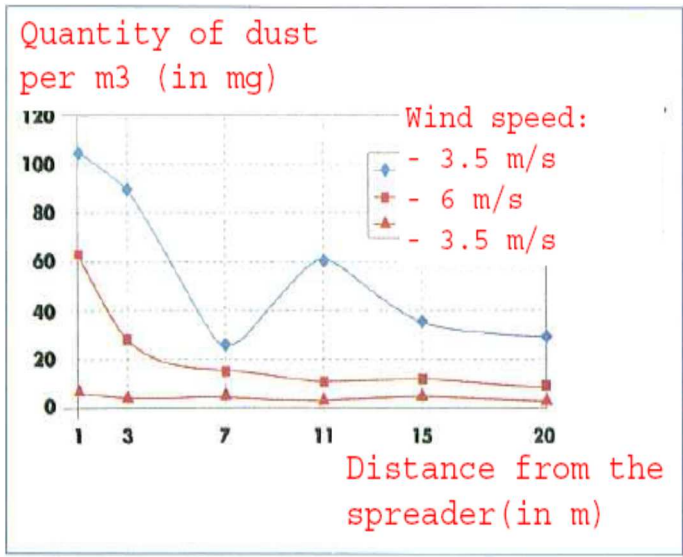
Frequency and duration of use

1 day/year (one application per year). Multiple applications during the year are allowed, provided the total yearly amount of 2,244 kg/ha is not exceeded (Ca(OH)_2)

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| | |
|---|---------------|
| Environment factors not influenced by risk management | |
| Volume of surface water: 300 L/m ² Field surface area: 1 ha | |
| Other given operational conditions affecting environmental exposure | |
| Outdoor use of products Soil mixing depth: 20 cm | |
| Technical conditions and measures at process level (source) to prevent release | |
| There are no direct releases to adjacent surface waters. | |
| Technical conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Drift should be minimised. | |
| Organizational measures to prevent/limit release from site | |
| In line with the requirements for good agricultural practice, agricultural soil should be analysed prior to application of lime and the application rate should be adjusted according to the results of the analysis. | |
| 2.2 Control of environmental exposure – only relevant for soil treatment in civil engineering | |
| Product characteristics | |
| Drift: 1% (very worst-case estimate based on data from dust measurements in air as a function of the distance from application) | |
|  <p>Quantity of dust per m³ (in mg)</p> <p>Wind speed:</p> <ul style="list-style-type: none"> - 3.5 m/s - 6 m/s - 3.5 m/s <p>Distance from the spreader (in m)</p> <p>(Figure taken from: Laudet, A. et al., 1999)</p> | |
| Amounts used | |
| Ca(OH) ₂ | 238,208 kg/ha |
| Frequency and duration of use | |
| 1 day/year and only once in a lifetime. Multiple applications during the year are allowed, provided the total yearly amount of 238,208 kg/ha is not exceeded (Ca(OH) ₂) | |
| Environment factors not influenced by risk management | |
| Field surface area: 1 ha | |
| Other given operational conditions affecting environmental exposure | |
| Outdoor use of products Soil mixing depth: 20 cm | |
| Technical conditions and measures at process level (source) to prevent release | |
| Lime is only applied onto the soil in the technosphere zone before road construction. There are no direct releases to adjacent surface waters. | |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | | | | |
|--|---|---|---|--------------------------------|
| Drift should be minimised. | | | | |
| 3. Exposure estimation and reference to its source | | | | |
| Occupational exposure | | | | |
| The exposure estimation tool MEASE was used for the assessment of inhalation exposure. The risk characterisation ratio (RCR) is the quotient of the refined exposure estimate and the respective DNEL (derived no-effect level) and has to be below 1 to demonstrate a safe use. For inhalation exposure, the RCR is based on the DNEL for calcium dihydroxide of 1 mg/m ³ (as respirable dust) and the respective inhalation exposure estimate derived using MEASE (as inhalable dust). Thus, the RCR includes an additional safety margin since the respirable fraction being a sub-fraction of the inhalable fraction according to EN 481. | | | | |
| PROC | Method used for inhalation exposure assessment | Inhalation exposure estimate (RCR) | Method used for dermal exposure assessment | Dermal exposure estimate (RCR) |
| PROC 2, 3, 4, 5, 8a, 8b, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19 | MEASE | < 1 mg/m ³ (<0.001 – 0.6) | Since calcium dihydroxide is classified as irritating to skin, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario. | |
| Environmental exposure for agricultural soil protection | | | | |
| The PEC calculation for soil and surface water was based on the FOCUS soil group (FOCUS, 1996) and on the "draft guidance on the calculation of predicted environmental concentration values (PEC) of plant protection products for soil, ground water, surface water and sediment (Kloskowski et al., 1999). The FOCUS/EXPOSIT modelling tool is preferred to the EUSES as it is more appropriate for agricultural-like application as in this case where parameter as the drift needs to be included in the modelling. FOCUS is a model typically developed for biocidal applications and was further elaborated on the basis of the German EXPOSIT 1.0 model, where parameters such as drifts can be improved according to collected data: once applied on the soil, calcium dihydroxide can indeed migrate then towards surface waters, via drift. | | | | |
| Environmental emissions | See amounts used | | | |
| Exposure concentration in waste water treatment plant (WWTP) | Not relevant for agricultural soil protection | | | |
| Exposure concentration in aquatic pelagic compartment | Substance | PEC (ug/L) | PNEC (ug/L) | RCR |
| | Ca(OH) ₂ | 7.48 | 490 | 0.015 |
| Exposure concentration in sediments | As described above, no exposure of surface water nor sediment to lime is expected. Further, in natural waters the hydroxide ions react with HCO ₃ ⁻ to form water and CO ₃ ²⁻ . CO ₃ ²⁻ forms CaCO ₃ by reacting with Ca ²⁺ . The calcium carbonate precipitates and deposits on the sediment. Calcium carbonate is of low solubility and a constituent of natural soils. | | | |
| Exposure concentrations in soil and groundwater | Substance | PEC (mg/L) | PNEC (mg/L) | RCR |
| | Ca(OH) ₂ | 660 | 1080 | 0.61 |
| Exposure concentration in atmospheric compartment | This point is not relevant. Calcium dihydroxide is not volatile. The vapour pressures is below 10 ⁻⁵ Pa. | | | |
| Exposure concentration relevant for the food chain (secondary poisoning) | This point is not relevant because calcium dihydroxides can be considered to be omnipresent and essential in the environment. The uses covered do not significantly influence the distribution of the constituents (Ca ²⁺ and OH ⁻) in the environment. | | | |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| Environmental exposure for soil treatment in civil engineering | | | | |
|--|--|------------|-------------|------|
| The soil treatment in civil engineering scenario is based on a road border scenario. At the special road border technical meeting (Ispra, September 5, 2003), EU Member States and industry agreed on a definition for a “road technosphere”. The road technosphere can be defined as “the engineered environment that carries the geotechnical functions of the road in connection with its structure, operation and maintenance including the installations to ensure road safety and manage run off. This technosphere, which includes the hard and soft shoulder at the edge of the carriageway, is vertically dictated by the groundwater watertable. The road authority has responsibility for this road technosphere including road safety, road support, prevention of pollution and water management”. The road technosphere was therefore excluded as assessment endpoint for risk assessment for the purpose of the existing/new substances regulations. The target zone is the zone beyond the technosphere, to which the environmental risk assessment applies. | | | | |
| The PEC calculation for soil was based on the FOCUS soil group (FOCUS, 1996) and on the “draft guidance on the calculation of predicted environmental concentration values (PEC) of plant protection products for soil, ground water, surface water and sediment (Kloskowski et al., 1999). The FOCUS/EXPOSIT modelling tool is preferred to the EUSES as it is more appropriate for agricultural-like application as in this case where parameter as the drift needs to be included in the modelling. FOCUS is a model typically developed for biocidal applications and was further elaborated on the basis of the German EXPOSIT 1.0 model, where parameters such as drifts can be improved according to collected data. | | | | |
| Environmental emissions | See amounts used | | | |
| Exposure concentration in waste water treatment plant (WWTP) | Not relevant for road border scenario | | | |
| Exposure concentration in aquatic pelagic compartment | Not relevant for road border scenario | | | |
| Exposure concentration in sediments | Not relevant for road border scenario | | | |
| Exposure concentrations in soil and groundwater | Substance | PEC (mg/L) | PNEC (mg/L) | RCR |
| | Ca(OH)2 | 701 | 1080 | 0.65 |
| Exposure concentration in atmospheric compartment | This point is not relevant. Calcium dihydroxide is not volatile. The vapour pressures is below 10 ⁻⁵ Pa. | | | |
| Exposure concentration relevant for the food chain (secondary poisoning) | This point is not relevant because calcium can be considered to be omnipresent and essential in the environment. The uses covered do not significantly influence the distribution of the constituents (Ca2+ and OH-) in the environment. | | | |
| Environmental exposure for other uses | | | | |
| For all other uses, no quantitative environmental exposure assessment is carried because | | | | |
| <ul style="list-style-type: none">• The operational conditions and risk management measures are less stringent than those outlined for agricultural soil protection or soil treatment in civil engineering• Lime is an ingredient and chemically bound into a matrix. Releases are negligible and insufficient to cause a pH-shift in soil, wastewater or surface water• Lime is specifically used to release CO2-free breathable air, upon reaction with CO2. Such applications only relates to the air compartment, where the lime properties are exploited• Neutralisation/pH-shift is the intended use and there are no additional impacts beyond those desired. | | | | |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

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

The DU works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate on his own that his operational conditions and implemented risk management measures are adequate. This has to be done by showing that they limit the inhalation and dermal exposure to a level below the respective DNEL (given that the processes and activities in question are covered by the PROCs listed above) as given below. If measured data are not available, the DU may make use of an appropriate scaling tool such as MEASE (www.ebrc.de/mease.html) to estimate the associated exposure. The dustiness of the substance used can be determined according to the MEASE glossary. For example, substances with a dustiness less than 2.5 % according to the Rotating Drum Method (RDM) are defined as "low dusty", substances with a dustiness less than 10 % (RDM) are defined as "medium dusty" and substances with a dustiness ≥ 10 % are defined as "high dusty".

DNEL_{inhalation}: 1 mg/m³ (as respirable dust)

Important note: The DU has to be aware of the fact that apart from the long-term DNEL given above, a DNEL for acute effects exists at a level of 4 mg/m³. By demonstrating a safe use when comparing exposure estimates with the long-term DNEL, the acute DNEL is therefore also covered (according to R.14 guidance, acute exposure levels can be derived by multiplying long-term exposure estimates by a factor of 2). When using MEASE for the derivation of exposure estimates, it is noted that the exposure duration should only be reduced to half-shift as a risk management measure (leading to an exposure reduction of 40 %).

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

ES number 9.12: Consumer use of building and construction material (DIY – do it yourself)

| Exposure Scenario Format (2) addressing uses carried out by consumers | | | | |
|---|--|---|---|------------------------------|
| 1. Title | | | | |
| Free short title | | Consumer use of building and construction material | | |
| Systematic title based on use descriptor | | SU21, PC9a, PC9b, ERC8c, ERC8d, ERC8e, ERC8f | | |
| Processes, tasks activities covered | | Handling (mixing and filling) of powder formulations Application of liquid, pasty lime preparations. | | |
| Assessment Method* | | Human health: A qualitative assessment has been performed for oral and dermal exposure as well as exposure to the eye. Inhalation exposure to dust has been assessed by the Dutch model (van Hemmen, 1992). Environment: A qualitative justification assessment is provided. | | |
| 2. Operational conditions and risk management measures | | | | |
| RMM | | No product integrated risk management measures are in place. | | |
| PC/ERC | | Description of activity referring to article categories (AC) and environmental release categories (ERC) | | |
| PC 9a, 9b | | Mixing and loading of powder containing lime substances. Application of lime plaster, putty or slurry to the walls or ceiling. Post-application exposure. | | |
| ERC 8c, 8d, 8e, 8f | | Wide dispersive indoor use resulting in inclusion into or onto a matrix Wide dispersive outdoor use of processing aids in open systems Wide dispersive outdoor use of reactive substances in open systems Wide dispersive outdoor use resulting in inclusion into or onto a matrix | | |
| 2.1 Control of consumers exposure | | | | |
| Product characteristic | | | | |
| Description of the preparation | Concentration of the substance in the preparation | Physical state of the preparation | Dustiness (if relevant) | Packaging design |
| Lime substance | 100 % | Solid, powder | High, medium and low, depending on the kind of lime substance (indicative value from DIY ¹ fact sheet see section 9.0.3) | Bulk in bags of up to 35 kg. |
| Plaster, Mortar | 20-40% | Solid, powder | | |
| Plaster, Mortar | 20-40% | Pasty | - | - |
| Putty, filler | 30-55% | Pasty, highly viscous, thick liquid | - | In tubes or buckets |
| Pre-mixed lime wash paint | ~30% | Solid, powder | High - low (indicative value from DIY ¹ fact sheet see section 9.0.3) | Bulk in bags of up to 35 kg. |
| Lime wash paint/milk of lime preparation | ~ 30 % | Milk of lime preparation | - | - |
| Amounts used | | | | |
| Description of the preparation | Amount used per event | | | |
| Filler, putty | 250 g – 1 kg powder (2:1 powder water) Difficult to determine, because the amount is heavily dependent on the depth and size of the holes to be filled. | | | |
| Plaster/lime wash paint | ~ 25 kg depending on the size of the room, wall to be treated. | | | |
| Floor/wall equalizer | ~ 25 kg depending on the size of the room, wall to be equalized. | | | |
| Frequency and duration of use/exposure | | | | |
| Description of task | Duration of exposure per event | | frequency of events | |
| Mixing and loading of lime containing powder. | 1.33 min (DIY ¹ -fact sheet, RIVM, Chapter 2.4.2 Mixing and loading of powders) | | 2/year (DIY ¹ fact sheet) | |
| Application of lime plaster, putty or slurry to the walls or ceiling | Several minutes - hours | | 2/year (DIY ¹ fact sheet) | |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| Human factors not influenced by risk management | | | | |
|---|--------------------|---|-----------------------------|-------------------------------|
| Description of the task | Population exposed | Breathing rate | Exposed body part | Corresponding skin area [cm²] |
| Handling of powder | Adult | 1.25 m³/hr | Half of both hands | 430 (DIY¹ fact sheet) |
| Application of liquid, pasty lime preparations. | Adult | NR | Hands and forearms | 1900 (DIY¹ fact sheet) |
| Other given operational conditions affecting consumers exposure | | | | |
| Description of the task | Indoor/outdoor | Room volume | Air exchange rate | |
| Handling of powder | indoor | 1 m³ (personal space, small area around the user) | 0.6 hr⁻¹ (unspecified room) | |
| Application of liquid, pasty lime preparations. | indoor | NR | NR | |
| Conditions and measures related to information and behavioural advice to consumers | | | | |
| In order to avoid health damage DIYers should comply with the same strict protective measures which apply to professional workplaces: | | | | |
| <ul style="list-style-type: none">• Change wet clothing, shoes and gloves immediately.• Protect uncovered areas of skin (arms, legs, face): there are various effective skin protection products which should be used in accordance with a skin protection plan (skin protection, cleansing and care). Cleanse the skin thoroughly after the work and apply a care product. | | | | |
| Conditions and measures related to personal protection and hygiene | | | | |
| In order to avoid health damage DIYers should comply with the same strict protective measures which apply to professional workplaces: | | | | |
| <ul style="list-style-type: none">• When preparing or mixing building materials, during demolition or caulking and, above all, during overhead work, wear protective goggles as well as face masks during dusty work.• Choose work gloves carefully. Leather gloves become wet and can facilitate burns. When working in a wet environment, cotton gloves with plastic covering (nitrile) are better. Wear gauntlet gloves during overhead work because they can considerably reduce the amount of humidity which permeates the working clothes. | | | | |
| 2.2 Control of environmental exposure | | | | |
| Product characteristics | | | | |
| Not relevant for exposure assessment | | | | |
| Amounts used* | | | | |
| Not relevant for exposure assessment | | | | |
| Frequency and duration of use | | | | |
| Not relevant for exposure assessment | | | | |
| Environment factors not influenced by risk management | | | | |
| Default river flow and dilution | | | | |
| Other given operational conditions affecting environmental exposure | | | | |
| Indoor | | | | |
| Direct discharge to the wastewater is avoided. | | | | |
| Conditions and measures related to municipal sewage treatment plant | | | | |
| Default size of municipal sewage system/treatment plant and sludge treatment technique | | | | |
| Conditions and measures related to external treatment of waste for disposal | | | | |
| Not relevant for exposure assessment | | | | |
| Conditions and measures related to external recovery of waste | | | | |
| Not relevant for exposure assessment | | | | |
| 3. Exposure estimation and reference to its source | | | | |
| The risk characterisation ratio (RCR) is the quotient of the refined exposure estimate and the respective DNEL (derived no-effect level) and is given in parentheses below. For inhalation exposure, the RCR is based on the acute DNEL for lime substances of 4 mg/m³ (as respirable dust) and the respective inhalation exposure estimate (as inhalable dust). Thus, the RCR includes an additional safety margin since the respirable fraction is a sub-fraction of the inhalable fraction according to EN 481. Since limes are classified as irritating to skin and eyes a qualitative assessment has been performed for dermal exposure and exposure to the eye. | | | | |

Version: 1.0/EN

Revision date: February 2013

Printing Date: May 2015

| Human exposure | | |
|---|--|---|
| Handling of powder | | |
| Route of exposure | Exposure estimate | Method used, comments |
| Oral | - | Qualitative assessment Oral exposure does not occur as part of the intended product use. |
| Dermal | small task: $0.1 \mu\text{g}/\text{cm}^2$ (-) large task: $1 \mu\text{g}/\text{cm}^2$ (-) | Qualitative assessment If risk reduction measures are taken into account no human exposure is expected. However, dermal contact to dust from loading of lime substances or direct contact to the lime cannot be excluded if no protective gloves are worn during application. This may occasionally result in mild irritation easily avoided by prompt rinsing with water. Quantitative assessment The constant rate model of ConsExpo has been used. The contact rate to dust formed while pouring powder has been taken from the DIY ¹ -fact sheet (RIVM report 320104007). |
| Eye | Dust | Qualitative assessment If risk reduction measures are taken into account no human exposure is expected. Dust from loading of the lime substances cannot be excluded if no protective goggles are used. Prompt rinsing with water and seeking medical advice after accidental exposure is advisable. |
| Inhalation | Small task: $12 \mu\text{g}/\text{m}^3$ (0.003) Large task: $120 \mu\text{g}/\text{m}^3$ (0.03) | Quantitative assessment Dust formation while pouring the powder is addressed by using the dutch model (van Hemmen, 1992, as described in section 9.0.3.1 above). |
| Application of liquid, pasty lime preparations. | | |
| Route of exposure | Exposure estimate | Method used, comments |
| Oral | - | Qualitative assessment Oral exposure does not occur as part of the intended product use. |
| Dermal | Splashes | Qualitative assessment If risk reduction measures are taken into account no human exposure is expected. However, splashes on the skin cannot be excluded if no protective gloves are worn during the application. Splashes may occasionally result in mild irritation easily avoided by immediate rinsing of the hands with water. |
| Eye | Splashes | Qualitative assessment If appropriate goggles are worn no exposure to the eyes needs to be expected. However, splashes into the eyes cannot be excluded if no protective goggles are worn during the application of liquid or pasty lime preparations, especially during overhead work. Prompt rinsing with water and seeking medical advice after accidental exposure is advisable. |
| Inhalation | - | Qualitative assessment Not expected, as the vapour pressure of limes in water is low and generation of mists or aerosols does not take place. |
| Post-application exposure | | |
| No relevant exposure will be assumed as the aqueous lime preparation will quickly convert to calcium carbonate with carbon dioxide from the atmosphere. | | |
| Environmental exposure | | |
| Referring to the OC/RMMs related to the environment to avoid discharging lime solutions directly into municipal wastewater, the pH of the influent of a municipal wastewater treatment plant is circum-neutral and therefore, there is no exposure to the biological activity. The influent of a municipal wastewater treatment plant is often neutralized anyway and lime may even be used beneficially for pH control of acid wastewater streams that are treated in biological WWTPs. Since the pH of the influent of the municipal treatment plant is circum neutral, the pH impact is negligible on the receiving environmental compartments, such as surface water, sediment and terrestrial compartment. | | |

End of the safety data sheet