Showa Chemical Industry Co., Ltd.

BIZTONSÁGI ADATLAP
RADIOLITE
KOVAFÖLD

(EK) 453/2010 számú rendelete szerint
(EK) 1907/2006 számú rendelete szerint

1. SZAKASZ: AZ ANYAG/KEVERÉK ÉS A VÁLLALAT/VÁLLALKOZÁS AZONOSÍTÁSA

1.1. Termékazonosító

Kereskedelmi név	**Radiolite 100, 200, 300, 400, 450, 500, 600, 700, 900**
REACH regisztrációs szám	**01-2119488518-22-0004**
CAS-szám	**68855-54-9**
EK-szám	**272-489-0**

1.2. Az anyag vagy keverék megfelelő azonosított felhasználása, illetve ellenjavallt felhasználása

Azonosított felhasználások	**Szűrő segèdanyag**
Ellenjavallt felhasználások	**Nincs**

1.3. A biztonsági adatlap szállítójának adatai

Forgalmazó

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1.4. Sürgősségi telefonszám

CHEMTREC + 1 703 527 3887

2. SZAKASZ: A VESZÉLY MEGHATÁROZÁSA

2.1. Az anyag vagy keverék osztályozása

Besorolás (1272/2008/EK)

Fizikai lés kémiai kockázatok	**Nincs osztályozva.**
Az ember egészségét érintő hatás	**Nincs osztályozva.**
A környezetet érintő hatás	**Nincs osztályozva.**

Besorolás (67/548/EGK) **Nincs osztályozva.**

Valamennyi R-formula és Veszélyességi nyilatkozat teljes szövege a 16. részben található

Az ember egészségét érintő hatás

Ez a termék az 1272/2008/EK rendelet és a 67/548/EGK irányelvben meghatározottak szerint nem teljesíti a veszélyes besorolású termékek feltételeit. A kezelés és a felhasználás fajtájától függően (pl. őrlés, szárítás), levegőben szálló belélegezhető kristályos szilícium-dioxid keletkezhet. A belélegezhető kristályos szilícium-dioxid por hosszan tartó és/vagy nagy mennyiségű belégzése tüdőfibrózist, vagy hétköznapi nevén portüdőt okozhat. A portüdő elsődleges tünete a köhögés és a légszomj. A belélegezhető kristályos szilikának kitett foglalkozást űzőket figyelemmel kell kísérni és ellenőrizni kell.

A környezetet érintő hatás

Az anyag nem tekinthető a környezetre veszélyesnek.

Fizikai lés kémiai kockázatok

Ez a termék szervetlen anyagot nem és teljesíti a PBT vagy a vPvB feltételeit a REACH XIII. melléklete szerint. A terméket óvatosan kell kezelni a porképződés elkerülése érdekében.

2.2. Címkézési elemek

EK-szám 272-489-0

A Címke Megfelel A 1272/2008/EK Számú Rendeletnek

Piktogram használata nem szükséges.

2.3. Egyéb veszélyek

A jelenleg érvényes EU kritériumok szerint nem tartozik PBT/vPvB besorolás alá.

RADIOLITE

3. SZAKASZ: ÖSSZETÉTEL VAGY AZ ÖSSZETEVŐKRE VONATKOZÓ ADATOK

3.1. Anyagok

Flux-kalcinált kovaföld	**100%**
CAS-szám: 68855-54-9 **EK-szám: 272-489-0**	
Besorolás (1272/2008/EK)	**Besorolás (67/548/EGK)**
Nincs osztályozva.	**Nincs osztályozva.**

Valamennyi R-formula és Veszélyességi nyilatkozat teljes szövege a 16. részben található

REACH regisztrációs szám 01-2119488518-22-0004

CAS-szám 68855-54-9

EK-szám 272-489-0

Összetétellel Kapcsolatos Megjegyzések

Adalékanyagok:

Krisztoballit: CAS-No.: 14464-46-1 EC No.: 238-455-4

A termék 1%-nál kisebb mennyiségben tartalmaz belélegezhető krisztoballitot; a belélegezhető krisztoballit STOT RE1 osztályú

4. SZAKASZ: ELSŐSEGÉLYNYÚJTÁS

4.1. Az elsősegély-nyújtási intézkedések ismertetése

Általános információk

Akut és később jelentkező tünetek nem figyelhetők meg.

Belégzés

Menjen friss levegőre és maradjon nyugalomban. Ha a kellemetlenség folytatódik, forduljon orvoshoz.

Lenyelés

Alaposan öblítse ki a száját. Ha a kellemetlenség folytatódik, forduljon orvoshoz. Ne idézzen elő hányást.

Bőrre jutás

Szappannal és vízzel mossa le a bőrt. Használjon megfelelő krémet a bőr benedvesítéséhez.

Szemmel való érintkezés

Ne dörzsölje a szemét. Bő vízzel öblítse ki, és forduljon orvoshoz, amennyiben az irritáció nem múlik.

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

Belégzés

Kristályos kovasav tartalmú por tartós belélegzése a tüdő károsodásához vezethet. A kristályos kovasav (krisztoballit) közismerten szilikózist okoz, amely egy progresszív, egyes esetekben halálos kimenetelű tüdőbetegség.

4.3. A szükséges azonnali orvosi ellátás és különleges ellátás jelzése

Nincsenek különleges elsősegélynyújtásra vonatkozó intézkedések.

5. SZAKASZ: TŰZVÉDELMI INTÉZKEDÉSEK

5.1. Oltóanyag

Oltóanyag

A termék nem éghető. Nincs szükség különleges oltóanyagra.

5.2. Az anyagból vagy a keverékből származó különleges veszélyek

Különleges veszélyek

Nem éghető. Nincs veszélyes hőbomlás.

5.3. Tűzoltóknak szóló javaslat

Különleges Tuzoltási Eljárások

Nincs konkrét tűzvédelmi védelemre szükség. A környező tűzre használjon alkalmas oltóanyagot .

6. SZAKASZ: INTÉZKEDÉSEK VÉLETLENSZERŰ EXPOZÍCIÓNÁL

6.1. Személyi óvintézkedések, egyéni védőeszközök és vészhelyzeti eljárások

Kerülni kell a levegőben szálló por keletkezését, viseljen a nemzeti jogszabályoknak megfelelő személyi védőfelszerelést. Biztosítson megfelelő szellőztetést.

6.2. Környezetvédelmi óvintézkedések

Ne űritse ki lefolyóba, folyó vizekbe vagy földre. Kerülje a por vagy szennyezett anyagok szétszórását.

6.3. A területi elhatárolás és a szennyezésmentesítés módszerei és anyagai

Kerülje a száraz söprést, a levegőben szálló por keletkezésének elkerülése érdekében használjon vízpermetet vagy porelszívó tisztítórendszereket. Viseljen a nemzeti jogszabályoknak megfelelő személyes védőfelszerelést.

6.4. Hivatkozás más szakaszokra

A személyes védelemmel kapcsolatban lásd a 8. pontot. A hulladékeltávolításra vonatkozóan lásd a 13. pontot.

7. SZAKASZ: KEZELÉS ÉS TÁROLÁS

7.1. A biztonságos kezelésre irányuló óvintézkedések

Előzze meg a levegőben szálló por keletkezését. Ahol levegőben szálló por keletkezik, megfelelő elszívó szellőztetést kell biztosítani. Nem elégséges szellőzés esetén viseljen megfelelő légzésvédelmi felszerelést. A becsomagolt terméket körültekintéssel kezelje a véletlenszerű szétszakadás elkerülése érdekében. Ha tanácsra van szüksége a biztonságos kezelési technikákra vonatkozóan, lépjen kapcsolatba a beszállítójával, vagy olvassa el a 16. fejezetben található Gyakorlati útmutatót. A munkaterületen való étkezés, italfogyasztás és dohányzás megtiltása; a használatot követő kézmosás és a szennyezett ruházat és védőeszköz eltávolítása az étkezésre szolgáló területekre való belépés előtt.

7.2. A biztonságos tárolás feltételei, az esetleges összeférhetetlenséggel együtt

Száraz, fedett helyen tartandó. A fel- és lerakodás során minimalizálni kell a porképződést, és meg kell előzni, hogy a terméket a szél széthordja. Tartsa a tárolóedényeket zárva, és a becsomagolt terméket úgy tárolja, hogy megakadályozza a véletlenszerű szétszakadást.

7.3. Meghatározott végfelhasználás (végfelhasználások)

További információért lásd a mellékelt Expozíciós forgatókönyvet.

Használati Leírás

Ha tanácsra van szüksége a sajátos felhasználási módokra vonatkozóan, lépjen kapcsolatba a beszállítójával, vagy olvassa el a 16. fejezetben található Jó gyakorlat útmutatóját.

8. SZAKASZ: AZ EXPOZÍCIÓ ELLENŐRZÉSE/EGYÉNI VÉDELEM

8.1. Ellenőrzési paraméterek

Név	SZABVÁNY	AK-Érték		CK-Érték		Megjegyzések
Krisztoballit	MKBS		0,15 mg/m3			

MKBS = Munkahelyek kémiai biztonságáról szóló.

DNEL				
Ipari	Belégzés.	Hosszú távú	0.33	mg/m3
Fogyasztói	Belégzés.	Hosszú távú	0.08	mg/m3
Fogyasztói	Szájon át	Hosszú távú	3.5	mg/kg/nap
PNEC				
STP	NOAEL value AF=100			
Üledék	n/a			
víz	n/a			

8.2. Az expozíció ellenőrzése

Műszaki intézkedések

Ld. az I. mellékletben, valamint a 7. fejezetben ismertetett kitételi forgatókönyveket Csökkentse minimálisra a levegőben szálló por keletkezését. Használjon zárt folyamatokat, helyi elszívó szellőztetést vagy egyéb műszaki ellenőrzést annak érdekében, hogy a levegőben szálló por szintje a megadott expozíciós határértékek alatt maradjon. Ha a felhasználói műveletekkel por, füst vagy pára keletkezik, szellőztetéssel tartsa a levegőben szálló por szintjét az expozíciós határérték alatt. Alkalmazzon szervezeti intézkedéseket, pl. zárja ki a személyzetet a poros területekről. A szennyezett ruházatot vegye le és mossa ki. .

Légzésvédelem

Azok, akik hosszabb ideig vannak kitéve levegőben szálló porkoncentrációnak, viseljenek az európai vagy helyi jogszabályoknak megfelelő légzésvédelmi felszerelést.

Kézvédelem

Bőrrel való hosszantartó vagy ismételt érintkezés esetén használjon megfelelő védőkesztyűt. PVC vagy gumikesztyű ajánlott.

Szemvédelem

Használjon szemvédőt. Védőszemüveg/maszk használata ajánlott. A termékkel való munkavégzés során nem szabad kontaktlencsét viselni.

Higiéniai óvintézkedések

Használat közben ne egyen, ne igyon és ne dohányozzon. Minden műszak végén, evés előtt, dohányzás és toilet használata előtt mosakodjon meg. Használjon megfelelő krémet a bőr kiszáradása ellen.

Bőrvédelem

Nincsenek különleges követelmények. Megfelelő védőfelszerelés (pl. védőruha, védőkrém) ajánlott azoknak a dolgozóknak, akik bőrgyulladástól szenvednek vagy érzékeny bőrűek.

Környezeti expozíció ellenőrzése

Hulladékkezelés a helyi és nemzeti előírások szerint.

9. SZAKASZ: FIZIKAI ÉS KÉMIAI TULAJDONSÁGOK

9.1. Az alapvető fizikai és kémiai tulajdonságokra vonatkozó információ

Külső megjelenés	**Por**
Szín	**Fehér/piszkos-fehér, rózsaszín**
Szag	**Majdnem szagtalan.**
Oldhatóság	**Vízben oldhatatlan EU A6 módszer**

Kezdeti forráspont és forrásponttartomány

Nem értelmezhető.

Olvadáspont (°C)	**> 450**
	EU A1 módszer
Relativ sűrűség	**2.4**
	OECD 109

Gőznyomás

Nem értelmezhető.

pH Hígítatlanul

Nem értelmezhető.

Viszkozitás

Nem értelmezhető.

Bomlási hőmérséklet (°C)

Nem értelmezhető.

Lobbanáspont

Nem értelmezhető.

Öngyulladási hőmérséklet (°C)

Nem értelmezhető.

Gyulladáshatár - Alsó (%)

Nem értelmezhető.

Gyulladáshatár - Felso (%)

Nem értelmezhető.

Elosztási Tényezo: (N-Oktánol/Víz)

Nem értelmezhető.

Oxidáló tulajdonságok

Nem fontos

9.2. Egyéb információk

Semmi.

10. SZAKASZ: STABILITÁS ÉS REAKCIÓKÉSZSÉG

10.1. Reakciókészség

A termékhez nem kapcsolhatók specifikus reakcióképességi veszélyek.

10.2. Kémiai stabilitás

Normál hőmérsékleti viszonyok és az ajánlott alkalmazás mellett stabil.

10.3. A veszélyes reakciók lehetősége

Nem értelmezhető.

10.4. Kerülendő körülmények

Nincs különös összeférhetetlenség.

10.5. Nem összeférhető anyagok

Kerülendo Anyagok

Összeférhetetlen csoportok nincsenek jegyezve.

10.6. Veszélyes bomlástermékek

Normal körülmények között nem.

11. SZAKASZ: TOXIKOLÓGIAI ADATOK

11.1. A toxikológiai hatásokra vonatkozó információ

Akut toxicitási érték:

Akut toxicitási érték (Szájon át LD50)

> 2000 mg/kg Patkány

OECD 401

Akut toxicitási érték (Bőr LD50)

Nem értelmezhető.

Akut toxicitási érték (Belégzett LD50)

> 2.6 mg/l (por/permet) Patkány

OECD 403

Skin Corrosion/Irritation

Dózis **Nyúl**

Dózis

Nyúl

OECD 404

Nem okoz irritációt.

Súlyos szemkárosodás/szemirritáció:

Nem értelmezhető. Nem irritáló. OECD 405

Légzőszervi szenzibilizáció vagy bőrszenzibilizáció:

Bőrszenzibilizáció

Nem értelmezhető. Tengerimalac

OECD 429

Nem szenzibilizáló.

Csírasejt-mutagenitás:

Genotoxicitás - In Vitro

Nem értelmezhető.

OECD 471. OECD 473. OECD 476.

Negatív.

Rákkeltő hatás:

Rákkeltő hatás

Nem értelmezhető.

Reprodukciós toxicitás:

Reproduktív toxicitás - Termékenység

Nem értelmezhető.

Egyetlen expozíció utáni célszervi toxicitás (STOT):

STOT - Egyszeri expozíció

Nem értelmezhető.

Általános információk

Ez a termék enyhén mérgező. Csak nagyobb mennyiségek lehetnek károsak az egészségre.

Belégzés

Állatkísérlet során, akut belélegzést követően nincs akut hatás. Javaslat került előterjesztésre 90 napos ismételt dózisú belélegzés vizsgálatra. A kalcinált kovaföld (kieselguhr) kristályos kovasavat tartalmaz, amelyet közismerten a szilikózis, egy progresszív, egyes esetekben halálos kimenetelű tüdőbetegség okozója. A Nemzetközi Rákkutató Ügynökség egy 1997-es tanulmánya (Volume 68, „Silica, Some Silicates, Coal Dust and Para-aramid Fibrils") szerint a „munkavégzés során belélegzett kristályos kovasav" az 1. csoportba tartozik mint „humán rákkeltő anyag". Az általános értékelés alapján az IARC munkacsoportja megállapította, hogy a humán rákkeltő jelleg nem volt mindig észlelhető minden vizsgált ipari körülmény esetén. A kristályos kovasavat a német MAK Bizottság szintén humán rákkeltő anyagnak minősíti (A1 Kategória). Por magas koncentrációban izgathatja a légutakat.

Lenyelés

A véletlenül lenyelt mennyiségeknek valószínűleg nincs káros hatása. Állatkísérletekben, szájon át beadva sem akut, sem tartós hatás nem tapasztalható.

Bőrre jutás

Állatkísérletben bőrre alkalmazva nem tapasztalható akut hatás A kieselguhr, vagy folyósított kalcinált szóda hamu a bőrt nem irritálja. Hosszantartó érintkezés bőrkiszáradást okozhat.

Szemmel való érintkezés

A kovaföld folyósított kalcinált szóda hamu a szemet nem irritálja.

Az Egészséget Érinto Figyelmeztetések

A belélegezhető kristályos szilícium-dioxidot tartalmazó por hosszan tartó és/vagy nagy mennyiségű expozíciója portüdőt okozhat, ami a finom belélegezhető kristályos szilícium-dioxid részecskék tüdőben történő lerakódása által okozott noduláris tüdőfibrózis.

1997-ben a Nemzetközi Rákkutató Ügynökség (IARC) arra a következtetésre jutott, hogy a foglalkozás során belélegzett kristályos szilícium-dioxid tüdőrákot okozhat az emberekben. Azonban rámutattak, hogy ez nem minden ipari körülményre és nem minden típusú kristályos szilícium-dioxidra vonatkozik. (IARC Monográfiák az emberi szervezetben rákkeltő hatású kockázatok értékeléséről, Kovasav, szilikát porok és szerves rostok, 1997, 68. kötet, IARC, Lyon, Franciaország.)

2003 júniusában a SCOEL (az Európai Bizottság foglalkoztatási expozíciós határértékeket megállapító tudományos bizottsága) arra a következtetésre jutott, hogy a belélegezhető kristályos szilícium-dioxid fő hatása az emberre a portüdő. "Elegendő információ áll rendelkezésre annak megállapításához, hogy a tüdőrák relatív kockázata megnő a szilikózisban szenvedő személyeknél (a szilikózisban nem szenvedő alkalmazottakkal szemben, akik a kőfejtőkben és a kerámiaiparban ki vannak téve a szilícium-dioxidos por belélegzésének). Következésképpen a szilikózis kialakulásának megelőzésével a rák kialakulásának kockázata is csökkenthető..." (SCOEL SUM Doc 94-final, 2003. június).
Tehát több bizonyíték is alátámasztja azt a tényt, hogy a rák megnövekedett kockázata azokra az emberekre korlátozódik, akik már szilikózisban (portüdőben) szenvednek. A dolgozók szilikózis elleni védelmét úgy kell biztosítani, hogy betartják a meglévő foglalkozási expozíciós határértékeket, és ahol szükséges, további kockázatkezelési intézkedéseket vezetnek be (ld. a 16. fejezetet).

12. SZAKASZ: ÖKOLÓGIAI INFORMÁCIÓK

Ökotoxicitás

A termék összetevői nincsenek a környezetre nézve veszélyes anyagként besorolva. Ez azonban nem zárja ki annak a lehetőségét, hogy nagymennyiségű és gyakori szennyeződés ne legyen káros és rongáló hatással a környezetre.

12.1. Toxicitás

Akut toxicitás - Halak
96 órák Onchorhynchus mykiss (Szivárványos pisztráng)
Meghaladja az anyag maximális oldhatóságát OECD 203
Akut toxicitás - Gerinctelen Víziállatok
48 órák Daphnia magna (vizibolha)
Meghaladja az anyag maximális oldhatóságát OECD 202
Akut toxicitás - Vízinövények
72 órák Desmondesmus subspicatus
Meghaladja az anyag maximális oldhatóságát OECD 201
Akut toxicitás -Mikroorganizmusok
3 órák > 1000 mg/l Aktivált iszap
Ártalmatlan az STP mikroorganizmusokra OECD 209

12.2. Perzisztencia és lebonthatóság

Lebonthatóság

A termék kizárólag szervetlen vegyületekből áll, amelyek biológiailag nem bomlanak le.

12.3. Bioakkumulációs képesség

Bioakkumulációs képesség

A termék semmiféle olyan anyagot nem tartalmaz, amely biológiailag akkumulálódna.

Megoszlási hányados

Nem értelmezhető.

12.4. A talajban való mobilitás

Mobilitás:

Nem fontos, a termék formája miatt. A termék vízben nem oldható.

RADIOLITE

12.5. A PBT- és a vPvB-értékelés eredményei

A jelenleg érvényes EU kritériumok szerint nem tartozik PBT/vPvB besorolás alá.

12.6. Egyéb káros hatások

Nem ismert.

13. SZAKASZ: ÁRTALMATLANÍTÁSI SZEMPONTOK

Általános információk

A helyi szabályokkal összhangban erre jóváhagyott helyeken nem mérgező/inaktiv anyagként lerakható. A csomagolásban maradt maradékok porképződését el kell kerülni, és a dolgozók megfelelő védelméről gondoskodni kell. A használt csomagolást a csatolt gyűjtőedényben kell tárolni. A csomagolóanyag újrahasznosítását és ártalmatlanítását a helyi rendeleteknek megfelelően kell végezni. A csomagolás újrafelhasználása nem ajánlott. A csomagolóanyag újrahasznosítását és ártalmatlanítását erre felhatalmazott hulladékkezelő vállalatnak kell végeznie.

13.1. Hulladékkezelési módszerek

Ahol lehetséges, ártalmatlanítás helyett az újrahasznosítást kell választani. A helyi rendeletnek megfelelően kell ártalmatlanítani.

14. SZAKASZ: SZÁLLÍTÁSRA VONATKOZÓ INFORMÁCIÓK

Általános	**Különleges óvintézkedések nem szükségesek. A termék nem szerepel a veszélyes áruk szállításáról szóló nemzetközi szabályokban (IMDG, IATA, ADR/RID).**

14.1. UN-szám

Információ nem szükséges.

14.2. Az ENSZ szerinti megfelelő szállítási megnevezés

Információ nem szükséges.

14.3. Szállítási veszélyességi osztály(ok)

Információ nem szükséges.

14.4. Csomagolási csoport

Információ nem szükséges.

14.5. Környezeti veszélyek

Környezetre Veszélyes Anyag/Tengeri Szennyezodés

Nem.

14.6. A felhasználót érintő különleges óvintézkedések

Nem értelmezhető.

14.7. A MARPOL 73/78 II. melléklete és az IBC kódex szerinti ömlesztett szállítás

Információ nem szükséges.

15. SZAKASZ: SZABÁLYOZÁSSAL KAPCSOLATOS INFORMÁCIÓK

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

EU Törvényhozás

67/548/EGK sz. Veszélyes Anyagokra vonatkozó Irányelv.

15.2. Kémiai biztonsági értékelés

Kémiai biztonságossági vizsgálatot nem végeztek.

16. SZAKASZ: EGYÉB INFORMÁCIÓK

RADIOLITE

A biztonsági adatlapban alkalmazott rövidítések és betűszók

AF =Értékelési tényező
BCF = Biokoncentrációs tényező
CAS=Chemical Abstracts Service
C & LOsztályozás és címkézés
RCS =Belélegezhető kristályos kovasav
DNEL = Származtatott hatásmentes szint
LC50 = Halálos koncentráció középérték
LD50 =Halálos dózis középérték
EC - Európai Bizottság
NOAEL =Megfigyelhető káros hatást nem okozó szint
PBTPerzisztens bioakkumulatív toxikus
PEC =Előrejelzés szerint már hatást kiváltó szint
PNEC =Előrejelzés szerint káros hatást még nem kiváltó szint
SDS =Biztonsági adatlap
STOT = Specifikus célszervi toxicitás
STP = Szennyvíztisztító telep
vPvBNagyon perzisztens nagyon bioakkumulatív

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Általános információk

A dolgozókat tájékoztatni kell a kristályos szilícium-dioxid jelenlétéről, és meg kell nekik tanítani a termékre vonatkozó rendelkezések megfelelő használatát és kezelését.

2006. április 25-én aláírták a Megállapodás a dolgozók egészségvédelméről a kristályos szilícium-dioxid és a kristályos szilícium-dioxid tartalmú termékek megfelelő kezelésére és használatára vonatkozó előírások alapján című, több iparágon átívelő társadalmi párbeszédre vonatkozó megállapodást. Ez a megállapodás, amely az Európai Bizottság pénzügyi támogatásában részesül, az Iránymutató gyakorlat útmutatóján alapul. A Megállapodás előírásai 2006. október 25-én léptek hatályba. A Megállapodást az Európai Unió Hivatalos Lapjában tették közzé (2006/C 279/02). A Megállapodás és mellékleteinek szövege, beleértve az Iránymutató gyakorlat útmutatóját is a http://www.nepsi.eu honlapról érhető el, és hasznos információkat és útmutatást nyújtanak a belélegezhető kristályos szilícium-dioxidot tartalmazó termékek kezeléséről. Szakirodalmi hivatkozások kérésre rendelkezésre állnak az EUROSIL-nél, az ipari szilícium-dioxid gyártók európai szövetségénél.

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A fenti információ kizárólag a termék biztonsági követelményeit ismerteti, és a jelen ismereteinken alapul.. Az információ célja a tanácsadás a jelen biztonsági adatlapon megnevezett termék biztonságos kezeléséről, tárolásáról, feldolgozásáról, szállításáról és ártalmatlanításáról. Az információ nem vonatkoztatható más termékekre. A terméket más termékekkel történő keverése esetén vagy feldolgozása során az új termékre a jelen biztonsági adatlapon közölt információ már érvénytelen lehet.

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A nem (a beszállító) által gyártott vagy szállított anyagoknak (a beszállító) anyagaival együtt vagy azok helyett történő felhasználása esetén az ügyfél felel azért, hogy beszerezze a gyártótól vagy beszállítótól az ezekre a termékekre vagy egyéb anyagokra vonatkozó összes műszaki adatot és egyéb jellemzőt, valamint beszerezze az ezekkel kapcsolatos minden szükséges információt. Nem vállalunk felelősséget abban az esetben, ha (a beszállító) kieselguhr folyósított kalcinált szóda hamut használ más szállítótól származó anyagokkal együtt.

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Felülvizsgálat dátuma **01/02/2012**

Utolsó módosítás dátuma **6**

Kockázattal Kapcsolatos Mondatok Teljes Terjedelmükben

NC **Nincs osztályozva.**

Teljes Veszélyességi Nyilatkozat

Jogi Nyilatkozat

Ezek az információk a IMERYS legjobb tudomásán alapulnak, és azokat a jelölt dátumon pontosnak és megbízhatónak tartják. Azonban, ezek pontosságával, megbízhatóságával vagy teljességével kapcsolatban kifogást, jótállást vagy garanciát nem vállalunk. A felhasználó felelőssége, hogy saját felhasználása során meggyőződjön az információk megfelelő voltáról és teljességéről.

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Annex I

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Exposure Scenario 1: Manufacture of Kieselguhr soda ash flux-calcined

1. Short title of exposure scenario 1	
Manufacture of Kieselguhr soda ash flux-calcined	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites .
Product category (PC)	PC 0: (adsorbent, filling material) PC 14: Metal surface treatment products, including galvanic and electroplating products (This covers substances permanently binding with the metal surface)
Process category (PROC)	PROC 2: Use in closed, continuous process with occasional controlled exposure. PROC 3: Use in closed batch process PROC 4: Use in batch or other process where opportunity for exposure arises. Industrial setting 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).
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 1: Manufacture of substances
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	8 hours per day
Frequency of exposure at workplace:	5 days/week for each worker
Annual amount used per site:	The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario
3.2 Operational conditions related with substance/ product	
Physical state	Solid ranging from a fine powder with high dustiness to coarser granules with low dustiness
Concentration of substance	100% w/w

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in mixture	
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	Local exhaust ventilation is installed at manufacturing sites. The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	Safe conditions were defined by taking into account local exhaust ventilation in the present scenario
Respiratory protection	Workers may use half-face masks (P2 or P3) with an efficiency of at least 90% in situations with elevated dust concentrations in the air.
Hand protection	Workers use gloves during the handling of the pure, solid substance
Eye protection	Workers use safety glasses during the handling of the pure, solid substance
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Waste gases are cleaned by passage through cyclones or scrubber units or by filtration with bag filters. Solid and liquid wastes are disposed of in landfills or may be incinerated
Abatement measures related with wastewater	The wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas.
4.3 Waste related measures	
Type of waste	Solid and liquid waste
Disposal technique	Solid and liquid wastes are disposed of in landfills or may be incinerated.
Fraction released to environment during waste treatment	Any wastewater relreased from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).
5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation)	The workers' inhalation exposure to kieselguhr soda ash flux-calcined is estimated with the ECETOC TRA tool (ECETOC 2010). The assessment of exposure concentrations was performed with the three grades of dustiness that can be selected in the TRA tool: low, medium and high. The

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DNEL: Worker, long-term, systemic, inhalation: 0.33 mg/m³	modelled long-term exposure concentrations are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in the table for all activities. It is concluded that the manufacture of solid kieselguhr soda ash flux-calcined exhibiting different grades of dustiness is safe for workers under the specified conditions of exposure. This applies also to storage, repackaging and distribution of the substance. Safe conditions were defined by taking into account local exhaust ventilation in the present scenario. To achieve acceptable airborne concentrations of kieselguhr soda ash flux-calcined the efficiency of LEV and the duration of exposure were modified. Safe conditions can also be achieved by the use of personal respiratory equipment in addition or as an alternative to LEV. Consequently, the presentation of safe conditions is not exhaustive in the present ES.

Process Category	LEV	Duration	PRE	Content (%)	Inhalation exposure (mg/m3)	RCR
INDUSTRIAL USE WITH SUBSTANCE EXIHIBITING HIGH DUSTINESS						
1 – Use in closed process, no likelihood of exposure	No	4 to 8	No	100	0.01	0.028
2 – Use in closed, continuous process with occasional controlled exposure	90%	4 to 8	No	100	0.1	0.278
3 – Use in closed batch process (synthesis or formulation)	90%	4 to 8	No	100	0.1	0.278
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	95%	Up to 1	No	100	0.25	0.694
5 – Mixing or blending in batch processes (multistage and/or significant contact)	95%	Up to 1	No	100	0.25	0.694
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	95%	Up to 1	No	100	0.25	0.694
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	95%	Up to 1	No	100	0.25	0.694
9 – Transfer of chemicals into small containers (dedicated filling line)	95%	Up to 1	No	100	0.2	0.556
15 – Use of laboratory reagents in small scale laboratories	95%	4 to 8	No	100	0.25	0.694
19 – Hand-mixing with intimate contact (only PPE available	95%	Up to 1	No	100	0.25	0.694
INDUSTRIAL USE WITH SUBSTANCE EXIHIBITING MEDIUM DUSTINESS						
1 – Use in closed process, no likelihood of exposure	No	4 to 8	No	100	0.01	0.028
2 – Use in closed, continuous process with occasional controlled exposure	90%	4 to 8	No	100	0.1	0.278
3 – Use in closed batch process (synthesis or formulation)	80%	4 to 8	No	100	0.2	0.556
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	95%	4 to 8	No	100	0.25	0.694
5 – Mixing or blending in batch processes (multistage and/or significant contact)	95%	4 to 8	No	100	0.25	0.694
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	95%	4 to 8	No	100	0.25	0.694
8b – Transfer of chemicals	95%	4 to 8	No	100	0.25	0.694

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	from/to vessels/ large containers at dedicated facilities						
	9 – Transfer of chemicals into small containers (dedicated filling line)	95%	4 to 8	No	100	0.25	0.694
	15 – Use of laboratory reagents in small scale laboratories	50%	4 to 8	No	100	0.25	0.694
	19 – Hand-mixing with intimate contact (only PPE available	95%	4 to 8	No	100	0.25	0.694
	INDUSTRIAL USE WITH SUBSTANCE EXIHIBITING LOW DUSTINESS						
	1 – Use in closed process, no likelihood of exposure	No	4 to 8	No	100	0.01	0.028
	2 – Use in closed, continuous process with occasional controlled exposure	No	4 to 8	No	100	0.01	0.028
	3 – Use in closed batch process (synthesis or formulation)	No	4 to 8	No	100	0.1	0.278
	4 – Use in batch and other process (synthesis) where opportunity for exposure arises	50%	4 to 8	No	100	0.25	0.694
	5 – Mixing or blending in batch processes (multistage and/or significant contact)	50%	4 to 8	No	100	0.25	0.694
	8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	50%	4 to 8	No	100	0.25	0.694
	8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	No	4 to 8	No	100	0.1	0.278
	9 – Transfer of chemicals into small containers (dedicated filling line)	No	4 to 8	No	100	0.1	0.278
	15 – Use of laboratory reagents in small scale laboratories	No	4 to 8	No	100	0.1	0.278
	19 – Hand-mixing with intimate contact (only PPE available	50%	4 to 8	No	100	0.25	0.694

Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the manufacture of kieselguhr soda ash flux-calcined.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	According to unpublished monitoring data, wastewater released at manufacturing sites may contain up to 100 mg kieselguhr soda ash flux-calcined per litre. This is exceeding the amount that can be dissolved in one litre of water at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering the local sewage treatment plant (STP), the wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of kieselguhr soda ash flux- calcined. The sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation

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	of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out.
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux-calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the manufacture of the substance and waste air is expected to be filtered before released to the environment. ed WAS. The atmospheric concentrations of the substance are expected to be low.It is recommended to pass waste gas from manufacturing processes through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas. No further assessment of the exposure concentrations in the atmosphere is undertaken.
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

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Exposure Scenario 2: Use as filter aid in industrial settings

1. Short title of exposure scenario 2	
Use as a filter aid in industrial settings	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 4: Manufacture of food products SU 6: Manufacture of pulp, paper and paper products SU 8: Manufacture of bulk, large scale chemicals SU 10: Formulation mixing) of preparations and/or re-packaging SU 14: Manufacture of basic metals SU 17: General manufacturing, eg machner, equipment, vehicles, other transport equipment .
Product category (PC)	PC 2: Adsorbents PC 14: Metal surface treatment products, including galvanic and electroplating products PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 25: Metal working fluids PC 35: Washing and cleaning products (including solvent based products) PC 0: Other: Filtration material
Process category (PROC)	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 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 15: Use as laboratory reagent PROC 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 6b: Industrial use of reactive processing aids ERC 7: Industrial use of substances in closed systems
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	4-8 hours per day
Frequency of exposure at	5 days/week for each worker

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workplace:	
Annual amount used per site:	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	A concentration of 100% w/w was used to assess exposure to the solid substance. The exposure concentrations due to contact with liquid mixtures were calculated by taking into account a concentration of the substance in the liquid phase ranging from 5% to 25%.
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	Solid substance: Local exhaust ventilation is installed at the manufacturing sites. The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	Solid substance: Safe conditions were defined by taking into account local exhaust ventilation in the present scenario Liquid substance: Outdoor activity – natural ventilation
Respiratory protection	In addition, workers may use half-face masks (P2 or P3) with an efficiency of at least 90% in situations with elevated dust concentrations in the air. Liquid substance: N/A
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Waste gases are cleaned by passage through cyclones or scrubber units or by filtration with bag filters. Solid and liquid wastes are disposed of in landfills or may be incinerated
Abatement measures related with wastewater	The wastewater can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	Waste air may be filtered eg by bag filters or scrubber units.
4.3 Waste related measures	
Type of waste	Solid and liquid waste.
Disposal	Solid and liquid waste may be incinerated or disposed of in landfills.

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technique	
Fraction released to environment during waste treatment	Any wastewater released from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).

5. Prediction of exposure resulting from the conditions described above and the substance properties.

5.1. Human exposure

Workers (oral)	Good hygiene practice will minimise oral exposure

Workers (inhalation)

DNEL: Worker, long-term, systemic, inhalation: 0.33 mg/m³

Safe conditions for the handling of solid kieselguhr soda ash flux-calcined are given in for the manufacture of the substance. These apply also to the use of the substance as filter aid covered in exposure scenario 2. The modelled long-term exposure concentrations resulting from the handling of liquid mixtures containing the substance are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in **Error! Reference source not found.** for all activities described in exposure scenario 1. It is concluded that the manufacture of solid kieselguhr soda ash flux-calcined exhibiting different grades of dustiness is safe for workers under the specified conditions of exposure.

Process Category	LEV	Duration	PRE	Content (%)	Inhalation exposure (mg/m3)	RCR
INDUSTRIAL USE OF LIQUID MATERIAL						
2 – Use in closed, continuous process with occasional controlled exposure	No	4 to 8	No	5 to 25	0.147	0.408
3 – Use in closed batch process (synthesis or formulation)	No	4 to 8	No	5 to 25	0.147	0.408
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	No	4 to 8	No	5 to 25	0.147	0.408
5 – Mixing or blending in batch processes (multistage and/or significant contact)	No	4 to 8	No	5 to 25	0.147	0.408
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	No	4 to 8	No	5 to 25	0.147	0.408
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	No	4 to 8	No	5 to 25	0.147	0.408
9 – Transfer of chemicals into small containers (dedicated filling line)	No	4 to 8	No	5 to 25	0.147	0.408
15 – Use of laboratory reagents in small scale laboratories	No	4 to 8	No	5 to 25	0.147	0.408
19 – Hand-mixing with intimate contact (only PPE available): modelled with ConsExpo	No	8	No	10	0.0002	0.001

Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low.

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environment	The substance has a low solubility in water and thus is essentially unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the manufacture of kieselguhr soda ash flux-calcined.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	The amount of kieselguhr soda ash flux-calcined present in the wastewater may exceed the amount that can be dissolved at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering a sewage treatment plant (STP), the wastewater should be treated by sedimentation to remove the greatest portion of solids. Sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of kieselguhr soda ash flux-calcined as a filter aid in industrial settings. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

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Exposure Scenario 3: Use as additive in formulation of liquid, viscous or solid mixtures

1. Short title of exposure scenario 3	
Use as an additive in formulation of liquids, viscous or solid mixtures	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 10: Formulation mixing) of preparations and/or re-packaging SU 11: Manufacture of rubber products SU 13: Manufacture of other non-metallic mineral products, eg plasters, cement .
Product category (PC)	PC 2: Adsorbents PC 9: Coatings and paints, fillers, putties, thinners PC 21: Laboratory chemicals PC 29: Pharmaceuticals PC 35: Washing and cleaning products (including solvent based products)
Process category (PROC)	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 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 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 15: Use as laboratory reagent PROC 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	AC 10: Rubber products AC 13: Plastic products
Environmental release category (ERC)	ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 7: Industrial use of substances in closed systems ERC 8b: Wide dispersive indoor use of reactive substances in open systems
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	8 hours per day
Frequency of exposure at workplace:	5 days/week for each worker
Annual amount used per site:	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure.

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3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	The concentration of the substance in the final mixtures may range from <1 % (liquid) to 60 % (dental fillings).
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air. Skin protection and eye protection may be used
Respiratory protection	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air.
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Waste gases are cleaned by passage through cyclones or scrubber units or by filtration with bag filters. Solid and liquid wastes are disposed of in landfills or may be incinerated
Abatement measures related with wastewater	The wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas.
4.3 Waste related measures	
Type of waste	Solid and liquid waste.
Disposal technique	Solid and liquid waste may be incinerated or disposed of in landfills.
Fraction released to environment during waste treatment	Any wastewater released from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).
5. Prediction of exposure resulting from the conditions described above and the substance properties.	

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5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term, systemic, inhalation: 0.36mg/m^3*	The workers' inhalation exposure to kieselguhr soda ash flux-calcined that may occur during the formulation of liquid, viscous or solid preparations described in the present exposure scenario ES 3 is covered by the exposure concentrations calculated in the exposure scenarios ES 1 and ES 2.
Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the use of kieselguhr soda-ash flux calcined as an additive in the formulation of liquid, viscous or solid mixtures.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	The amount of kieselguhr soda ash flux-calcined present in the wastewater may exceed the amount that can be dissolved at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering a sewage treatment plant (STP), the wastewater should be treated by sedimentation to remove the greatest portion of solids. Sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken

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Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of kieselguhr soda ash flux-calcined as a filter aid in industrial settings. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

Exposure Scenario 4: Use as process aid in manufacture of chemicals, resins, rubbers and plastics

1. Short title of exposure scenario 4	
Use as an additive in formulation of liquids, viscous or solid mixtures	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 8: Manufacture of bulk, large scale chemicals SU 9: Manufacture of fine chemicals SU 11: Manufacture of rubber products SU 12: Manufacture of plastics products, including compound and conversion .
Product category (PC)	PC 16: Heat transfer fluids PC 17: Hydraulic fluids PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 24: Lubricants, greases, release products PC 25: Metal working fluids PC 32: Polymer preparations and compounds
Process category (PROC)	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 15: Use as laboratory reagent PROC 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	8 hours per day
Frequency of exposure at workplace:	360 days/year for each worker

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Annual amount used per site:	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	100% w/w
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air. Skin protection and eye protection may be used
Respiratory protection	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air.
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Not applicable
Abatement measures related with wastewater	The wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas.
4.3 Waste related measures	
Type of waste	Solid and liquid waste.
Disposal technique	Solid and liquid waste may be incinerated or disposed of in landfills.
Fraction released to environment during waste treatment	Any wastewater released from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).

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5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term, systemic, inhalation: 0.36mg/m^3*	The workers' inhalation exposure to kieselguhr soda ash flux-calcined that may occur during the formulation of liquid, viscous or solid preparations described in the present exposure scenario ES 4 is covered by the exposure concentrations calculated in the exposure scenarios ES 1 and ES 2.
Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the use of kieselguhr soda ash flux-calcined as a process aid in the manufacture of chemicals, resins, rubbers and plastics
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	The amount of kieselguhr soda ash flux-calcined present in the wastewater may exceed the amount that can be dissolved at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering a sewage treatment plant (STP), the wastewater should be treated by sedimentation to remove the greatest portion of solids. Sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated

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	with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of the substance as a process aid in the manufacture of chemicals, resins, rubbers and plastics. The atmospheric concentrations of the substance are expected to be low. It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

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Exposure Scenario 5: Professional use by dental technicians and dentists

1. Short title of exposure scenario 4	
Use as an additive in formulation of liquids, viscous or solid mixtures	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 9: Manufacture of fine chemicals SU 10: Formulation mixing) of preparations and/or re-packaging SU 12: Manufacture of plastics products, including compound and conversion SU 20: Health surfaces .
Product category (PC)	PC 32: Polymer preparations and compounds
Process category (PROC)	PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	Up to 1 h/day
Frequency of exposure at workplace:	Performed on up to 220 days/year
Annual amount used per site:	The daily and annual amount emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	Such materials can contain the substance at levels up to 60% w/w
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	

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<table>
<tr><td>Organisational measures</td><td>The employer has also to ascertain that the required PPE is available and used according to instructions.</td></tr>
<tr><td>Technical measures</td><td>Professionals normally do the mixing in the absence of LEV.</td></tr>
<tr><td>Respiratory protection</td><td>N/A</td></tr>
<tr><td>Hand protection</td><td>Skin protection may be used.</td></tr>
<tr><td>Eye protection</td><td>Eye protection may be used.</td></tr>
<tr><td>Skin and body protection</td><td>Wearing of suitable protective clothing.</td></tr>
<tr><td>Hygiene measures</td><td>Standard occupational hygiene measures should be adopted.</td></tr>
<tr><td colspan="2">4.2 RMMs related to the environment</td></tr>
<tr><td>Organisational measures</td><td>Any liquid waste that results from cleaning of equipment will be disposed of via the public sewer. Solid waste may be incinerated or deposited in landfills</td></tr>
<tr><td>Abatement measures related with wastewater</td><td>Any liquid waste that results from cleaning of equipment will be disposed of via the public sewer</td></tr>
<tr><td>Abatement measures waste air and solid waste</td><td>Solid waste may be incinerated or deposited in landfills. Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of the substance in dental practices. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken.</td></tr>
<tr><td colspan="2">4.3 Waste related measures</td></tr>
<tr><td>Type of waste</td><td>Solid and liquid waste.</td></tr>
<tr><td>Disposal technique</td><td>Solid waste may be incinerated or deposited in landfills. Any liquid waste that results from cleaning of equipment will be disposed of via the public sewer.</td></tr>
<tr><td>Fraction released to environment during waste treatment</td><td>Emissions from filling and alginate impression material may occur on 260 days per year. About 300 tonnes kieselguhr soda ash flux-calcined are used per year for dental filling and impression material in the EU. A fraction of 10%, i.e. 30 t/year, is considered for regional use. For the local use, 0.2% of the regional tonnage is considered, i.e. 60 kg/year. Part of the substance may be release to the wastewater when cleaning materials which were in contact with preparations containing kieselguhr soda ash flux-calcined. It is expected that at most 10% of the filling and impression materials are released to the sewer, i.e. 6 kg per year on the local scale. This results in a reasonable worst-case emission of substance into the wastewater of 0.023 kg/day. Emissions of the substance into the atmosphere or the soil compartment are negligible
<table>
<tr><th>Parameter</th><th>Value</th></tr>
<tr><td>Tonnage in EU per year</td><td>300 t</td></tr>
<tr><td>Regional tonnage per year</td><td>30 t</td></tr>
<tr><td>Local tonnage per year</td><td>60 kg</td></tr>
<tr><td>Fraction of main local source</td><td>0.002</td></tr>
<tr><td>Number of days</td><td>260 d</td></tr>
<tr><td></td><td></td></tr>
</table>
</td></tr>
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		Fraction of tonnage released to air	0	
		Fraction of tonnage released to wastewater	0.1	
		Fraction of tonnage released to soil	0	
		Local emissions to wastewater	0.023 kg/day	

5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term, systemic, inhalation:0.36 mg/m³*	The modelled reasonable worst-case long-term exposure concentrations resulting from the handling of small amounts of dental filling or impression materials (about 50 g/application) is 0.024 mg/m³. The RCR obtained by comparing this concentration of the long-term inhalation DNEL of 0.36 mg/m³ is 0.067 showing that the potential health risk for workers is controlled for the professional use of kieselguhr soda ash flux-calcined as dental filling and impression material by dental technicians and dentists.
Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms. It is concluded that indirect human exposure to kieselguhr soda ash flux-calcined via the environment is not relevant
Consumer exposure	Patients may ingest small amounts of substance during dental treatment. In general exposure is expected to be negligibe as the dental treatment is performed under professional surveillance.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	In the present assessment, the wastewater passes through a sewage treatment plant (STP) which has a capacity of 2000000 L/day. No removal of kieselguhr soda ash flux-calcined during wastewater treatment is taken into account for the present exposure scenario. The resulting reasonable worst-case concentration of the substance in the effluent of a local STP is 23000/2000000=0.012 mg/L
Aquatic pelagic compartment	A dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water, leading to a surface water concentration of 0.0012 mg/L. For coastal areas a dilution factor of 100 is taken into account, leading to a concentration of 0.00012 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out.
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release

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	of a significant quantity kieselguhr soda ash flux-calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of the substance in dental practices. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

Exposure Scenario 6: Industrial, professional and private use of substance or mixtures containing the substance

1. Short title of exposure scenario 6	
Use as an additive in formulation of liquids, viscous or solid mixtures	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 21: Consumer uses: Private households (= general public = consumers) SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category (PC)	PC 35: Washing and cleaning products (including solvent based products) PC 37: Water treatment chemicals
Process category (PROC)	PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 10: Roller application or brushing PROC 11: Non industrial spraying PROC 13: Treatment of articles by dipping and pouring PROC 19: Hand-mixing with intimate contact and only
Article category (AC)	AC 10: Rubber products AC 13: Plastic products
Environmental release category (ERC)	ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	

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Duration of exposure at workplace:	Use of coatings and paints containing kieselguhr soda ash flux-calcined: 4-8 hours Use of kieselguhr soda ash flux calcined for filtering water: Approximately 1 hour per day. Use of cleaners containing kieselguhr soda-ash flux calcined: Professionals up to 60 minutes per use, consumers up to 20 minutes per day.
Frequency of exposure at workplace:	Use of coatings and paints containing kieselguhr soda ash flux-calcined: Up to 225 days per year Use of kieselguhr soda ash flux calcined for filtering water: Weekly for professional use and monthly consumer use Use of cleaners containing kieselguhr soda-ash flux calcined: Professionals up to 8 times a day.
Annual amount used per site:	The daily and annual amount emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	A variety of articles made from rubbers or plastics contain the substance. The average weight fraction of kieselguhr soda ash flux-calcined in such articles is about 7% w/w and the maximum weight fraction is approximately 15% w/w.
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	Safe conditions were defined by considering that workers use respiratory equipment during industrial spraying to protect themselves against elevated airbourne concentrations of coatings or paints. Alternatively safe conditions may also be achieved by ensuring very good ventilation in the workplace. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr is expected.
Respiratory protection	If elevated exposure is to be expected LEV may be present and industrial and professional users may wear breathing masks reducing the amount of inhaled aerosols
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Kieselguhr soda ash flux-calcined used for the filtering of drinking and swimming pool water and kieselguhr soda ash flux-calcined present in surface cleaners may be released to the sewer and subsequently pass a municipal sewage treatment plant (STP).
Abatement measures related with wastewater	Any liquid waste that results will be disposed of via the public sewer

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<table>
<tr><td>Abatement measures waste air and solid waste</td><td>Solid waste may be disposed of as industrial, commercial or common household waste and may be incinerated or disposed of in landfills Waste air at industrial and professional sites may be filtered before released to the atmosphere.</td></tr>
<tr><td colspan="2">4.3 Waste related measures</td></tr>
<tr><td>Type of waste</td><td>Liquid/solid waste.</td></tr>
<tr><td>Disposal technique</td><td>Wastewater that is generated during cleaning operations may be treated in an onsite treatment plant or be released to the public sewer system and treated in a municipal STP. Solid waste may be disposed of as industrial, commercial or common household waste and may be incinerated or disposed of in landfills.</td></tr>
<tr><td>Fraction released to environment during waste treatment</td><td>A worst-case is considered in the present assessment in that 10% of the total tonnage placed on the EU market ends up in municipal STPs</td></tr>
<tr><td colspan="2">5. Prediction of exposure resulting from the conditions described above and the substance properties.</td></tr>
<tr><td colspan="2">5.1. Human exposure</td></tr>
<tr><td>Workers (oral)</td><td>Good hygiene practice will minimise oral exposure</td></tr>
<tr><td>Workers (inhalation)
DNEL: Worker, long-term, systemic, inhalation 0.36: mg/m^3</td><td>The modelled long-term exposure concentrations are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in exposure scenario 5. Safe conditions for additional activities are shown in the table below Safe conditions were defined by considering that workers use personal respiratory equipment during industrial spraying to protect themselves against elevated airborne concentrations of coatings or paints. Alternatively, safe conditions may also be achieved by ensuring very good ventilation of the workplace. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr soda ash flux-calcined is anticipated. It is concluded that the industrial use of mixtures containing kieselguhr soda ash flux-calcined is safe for workers under the specified conditions of exposure.

Safe conditions for industrial activities performed during the use of mixtures containing kieselguhr soda ash flux-calcined
<table>
<tr><th>Process Category</th><th>LEV</th><th>Duration</th><th>PRE</th><th>Content (%)</th><th>Inhalation exposure (mg/m3)</th><th>RCR</th></tr>
<tr><td colspan="7">INDUSTRIAL USE OF LIQUID MATERIAL</td></tr>
<tr><td>7 – Industrial spraying based on TNsG (European Commission 2002)</td><td>No</td><td>Up to 6</td><td>95%</td><td>10</td><td>0.325</td><td>0.903</td></tr>
<tr><td>10 – Roller application or brushing</td><td>No</td><td>4 to 8</td><td>No</td><td>5 to 25</td><td>0.125</td><td>0.347</td></tr>
<tr><td>13 – Treatment of articles by dipping and pouring</td><td>No</td><td>4 to 8</td><td>No</td><td>5 to 25</td><td>0.147</td><td>0.408</td></tr>
</table>

The modelled long-term exposure concentrations are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in the table above.Safe conditions were defined by considering that workers use personal respiratory equipment during non-industrial spraying to protect themselves against elevated airborne concentrations of coatings or paints. Alternatively, safe conditions may also be achieved by ensuring very good ventilation of the</td></tr>
</table>

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workplace. The reasonable worst-case airborne concentration of the substance resulting from professional cleaning was 1.86E-05 mg/m^3. The RCR obtained by comparing this concentration of the long-term inhalation DNEL of 0.36 mg/m^3 is 5.2E-05 showing that the potential health risk for workers is controlled for the professional use of cleaners. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr soda ash flux-calcined is anticipated. It is concluded that the professional use of mixtures containing kieselguhr soda ash flux-calcined is safe for workers under the specified conditions of exposure

Process Category	LEV	Duration	PRE	Content (%)	Inhalation exposure (mg/m3)	RCR
PROFESSIONAL USE OF SOLID MATERIAL WITH MEDIUM DUSTINESS						
2 – Use in closed, continuous process with occasional controlled exposure	75%	4 to 8	No	100	0.25	0.694
3 – Use in closed batch process (synthesis or formulation)	75%	4 to 8	No	100	0.25	0.694
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	95%	4 to 8	No	100	0.25	0.694
5 – Mixing or blending in batch processes (multistage and/or significant contact)	95%	4 to 8	No	100	0.25	0.694
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	95%	4 to 8	No	100	0.25	0.694
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	95%	4 to 8	No	100	0.25	0.694
9 – Transfer of chemicals into small containers (dedicated filling line)	95%	4 to 8	No	100	0.25	0.694
19 – Hand-mixing with intimate contact (only PPE available)	95%	4 to 8	No	100	0.25	0.694
PROFESSIONAL USE OF LIQUID MATERIAL						
2 – Use in closed, continuous process with occasional controlled exposure	No	4 to 8	No	5 to 25	0.15	0.417
3 – Use in closed batch process (synthesis or formulation)	No	4 to 8	No	5 to 25	0.15	0.417
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	No	4 to 8	No	5 to 25	0.15	0.417
5 – Mixing or blending in batch processes (multistage and/or significant contact)	No	4 to 8	No	5 to 25	0.15	0.417
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	No	4 to 8	No	5 to 25	0.15	0.417
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	No	4 to 8	No	5 to 25	0.15	0.417
9 – Transfer of chemicals into small containers (dedicated filling line)	No	4 to 8	No	5 to 25	0.15	0.417
10 – Roller application or brushing	No	4 to 8	No	5 to 25	0.125	0.347
11 – Non industrial spraying based on TNsG (European Commission 2002)	No	Up to 6	95%	10	0.325	0.903
13 – Treatment of articles by dipping and pouring	No	4 to 8	No	5 to 25	0.15	0.417

:	15 – Use of laboratory reagents in	No	4 to 8	No	5 to 25	0.15	0.417	

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	small scale laboratories						
	19 – Hand-mixing with intimate contact (only PPE available): modelled with ConsExpo	No	8	No	10	0.0002	0.001

Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	No indirect exposure of humans to kieselguhr soda ash flux-calcined is anticipated.
Consumer exposure (inhalation) *DNEL: Consumerr, long-term, systemic, inhalation 0.08: mg/m³*	Consumer exposure to kieselguhr soda ash flux-calcined resulting from the use of mixtures was described as long-term exposure in the case of use of paints and cleaning products and as short-term exposure in the case of spray painting and use of filtration materials. The long-term and acute airborne concentrations of the substance for the different uses are given in the table below. The RCRs for all consumer uses resulting in long-term exposure to the substance are well below 1 indicating that potential health risks for consumers are adequately controlled. Spray painting may result in relatively high acute exposure to kieselguhr soda ash flux-calcined and should be performed only in well-ventilated areas. It is recommended that particles of the substance used in spray paints available to consumers exhibit diameters greater than 0.015 mm. As particles with larger diameters generally are not inhaled this helps to avoid elevated consumer exposure to particles of kieselguhr soda ash flux-calcined during spray painting. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr soda ash flux-calcined is anticipated. It is concluded that the potential health risks for consumers are adequately for the uses of the substance described in the present exposure scenario.

Consumer use	**Mean inhalation concentration (long-term) in mg/m³**	**Mean inhalation concentration (acute) in mg/m³**	**RCR**
Use of high-solid paints	0.000122		0.0015
Use of water-based paints	0.000186		0.0023
Use of solvent-based paints	0.000864		0.011
Use of water-based wall paints	0.00044		0.0055
Spray painting (trigger cans)	Not applicable	37.5	Not applicable
Spray painting (pneumatic sprayer)	Not applicable	0.676	Not applicable
Filtration material	Not applicable	0.14	Not applicable
Cleaning products	0.00002		0.00025

5.2. Environmental exposure (qualitative assessment)

Waste water treatment plants (WWTP)	Kieselguhr soda ash flux-calcined used for the filtering of drinking and swimming pool water and kieselguhr soda ash flux-calcined present in surface cleaners may be released to the sewer and subsequently pass a municipal sewage treatment plant (STP). As the tonnages of kieselguhr soda ash flux-calcined for these uses are not known, a worst-case is considered in the present assessment in that 10% of the total tonnage placed on the EU market ends up in municipal STPs due to industrial, professional and private use of mixtures containing the substance and not covered by other exposure scenarios. The total EU tonnage is 120,000 tonnes per year resulting in 12,000 tonnes of kieselguhr soda ash flux-calcined released to municipal STPs in the present scenario. This amount is evenly distributed over the EU as dispersive use of mixtures containing the substance can be assumed. The EU has approximately 500 millions inhabitants. The average

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	volume of wastewater per inhabitant equivalent is 200 L per day (EUSES default). The concentration in a municipal STP can then be calculated as: $$C_{STP} = \frac{AMOUNT_{STP}}{DAYS \cdot INHAB \cdot WASTEW_{inhab}}$$, where $AMOUNT_{STP}$: amount of kieselguhr soda ash flux-calcined released to municipal STPs in the EU per year (1.2E13 mg/year), $DAYS$: number of release days (365 days/year), $INHAB$: number of inhabitants in EU (500 millions inhabitants), $WASTEW_{inhab}$: wastewater per inhabitant (200 L/d) , C_{STP} : concentration of kieselguhr soda ash flux-calcined in municipal STP (mg/L). The predicted concentration of kieselguhr soda ash flux-calcined in municipal sewage treatment plants is then: $$C_{STP} = \frac{1.2E13}{365 \cdot 500000000 \cdot 200} = 0.329 \frac{mg}{L}.$$
Aquatic pelagic compartment	A dilution factor of 10 is taken into account at the point of mixing of the waste water with surface water, leading to a surface water concentration of 0.033 mg/L. For coastal areas a dilution factor of 100 is taken into account, leading to a concentration of 0.00033 mg/L in marine waters
Sediments	Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out
Soil and groundwater	If paints containing soda ash flux-calcined are used outdoors small amounts of kieselguhr soda ash flux-calcined may leach to the soil. Further, kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux-calcined is expected to alter the physical and chemical characteristics of a soil. As leaching from paints and atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of mixtures containing the substances by industrial workers, professionals or consumers. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken.
Secondary poisoning	It is expected that emissions of the substance resulting from the industrial, professional or private use of the substance or mixtures containing the substance will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms. Therefore, it is not necessary to assess secondary poisoning via the food chain