Diaseal M® Lost Circulation Material

Version 3.1 Revision Date 2023-05-24

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2020/878

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product information

Product Name : Diaseal M® Lost Circulation Material
Material : 1016804, 1017933

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Calcium Hydroxide	1305-62-0 215-137-3	Chevron Phillips Chemicals International NV 01-2119862018-38-0001

1.2

Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses Supported : Use in Oil and Gas field drilling and production operations - Industrial

1.3

Details of the supplier of the safety data sheet

Company : Chevron Phillips Chemical Company LP
Drilling Specialties Company LLC
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincilaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Responsible Party: Product Safety Group
Email:sds@cpchem.com

1.4

Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)
Transport:
CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)
Belgium: 070 245 245 (24 hours/day, 7 days/week)
Bulgaria: +359 2 9154 233
Croatia: +3851 2348 342 (24 hours/day, 7 days/week)
Cyprus: 1401
Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402
Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212
Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Finland: 0800 147 111 09 471 977 (24 hours/day)
France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)
Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Greece: (0030) 2107793777 (24 hours/day, 7 days/week)
Hungary: +36-80-201-199 (24 hours/day, 7 days/week)
Iceland: 543 2222 (24 hours/day, 7 days/week)
Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371 67042473. (24 hours.)
Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Lithuania: +370 (85) 2362052
Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)
Malta: +356 2395 2000
The Netherlands: NVIC: +31 (0)88 755 8000
Norway: 22 59 13 00 (24 hours/day, 7 days/week)
Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Portugal: CIAV phone number: +351 800 250 250
Romania: +40213183606
Slovakia: +421 2 5477 4166
Slovenia: Phone number: 112
Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)
Sweden: 112 – ask for Poisons Information

Responsible Department	:	Product Safety and Toxicology Group
E-mail address	:	SDS@CPChem.com
Website	:	www.CPChem.com

SECTION 2: Hazards identification

2.1

Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318:

Carcinogenicity, Category 1A	Causes serious eye damage. H350i: May cause cancer by inhalation.

2.2

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :

H315	Causes skin irritation.
H318	Causes serious eye damage.
H350i	May cause cancer by inhalation.

Precautionary Statements :

Prevention:

P201	Obtain special instructions before use.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Disposal:

P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous ingredients which must be listed on the label:

- 1305-62-0 Calcium Hydroxide
- 14808-60-7 Crystalline Silica

2.3

Other hazards

Results of PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 - 3.2
Substance or Mixture

Synonyms : LCM
Lost Circulation Material

Molecular formula : Mixture

Hazardous ingredients

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]	Specific Conc. Limits, M-factors and ATEs
Diatomaceous Earth	**61790-53-2**		60 - 90	
Cellulose	9004-34-6 232-674-9		5 - 15	
Calcium Hydroxide	1305-62-0 215-137-3	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335	7 - 13	
Crystalline Silica	14808-60-7 238-878-4	Carc. 1A; H350 STOT RE 1; H372	0,1 - 1	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1
Description of first-aid measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If inhaled : Move to fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Induce vomiting immediately and call a physician. Keep respiratory tract clear. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed
Notes to physician

Symptoms : No data available.

Risks : No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No data available.

SECTION 5: Firefighting measures

Flash point : Not applicable

Autoignition temperature : Not applicable

5.1 Extinguishing media

Unsuitable extinguishing media : High volume water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Standard procedure for chemical fires.

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Fire and explosion protection : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

Hazardous decomposition products : None.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Avoid dust formation. Avoid breathing dust.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

Reference to other sections : For personal protection see section 8. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1

Precautions for safe handling
Handling

Advice on safe handling : Avoid formation of respirable particles. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

7.2

Conditions for safe storage, including any incompatibilities

Storage

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

German storage class : Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

SECTION 8: Exposure controls/personal protection

8.1

Control parameters
Ingredients with workplace control parameters

SK

Zložky	Podstata	Hodnota	Kontrolné parametre	Poznámka
Diatomaceous Earth	SK OEL	NPEL priemerný	10 mg/m3	20, Tabul'ka č. 3, 18, Pre celkovú koncentráciu
	SK OEL	NPEL priemerný	2 mg/m3	19, Tabul'ka č. 3, 18, respirabilná frakcia
	SK OEL	NPEL priemerný	10 mg/m3	20, Tabul'ka č. 3, 18, Pevný aerosol, pre celkovú koncentráciu
	SK OEL	NPEL priemerný	10:Fr mg/m3	Pevný aerosol, respirabilná frakcia
	SK OEL	NPEL priemerný	2 mg/m3	Pevný aerosol, respirabilná frakcia
	SK OEL	NPEL priemerný	10 mg/m3	Pevný aerosol, pre celkovú koncentráciu
Calcium Hydroxide	SK OEL	NPEL priemerný	1 mg/m3	respirabilná frakcia
	SK OEL	NPEL krátkodobý	4 mg/m3	respirabilná frakcia
Crystalline Silica	SK OEL	TSH	0,1 mg/m3	1A, Merané ako respirabilná frakcia
	SK OEL	NPEL priemerný	0,1 mg/m3	TSH, 21, 19, Tabul'ka č. 3, 23, 18, 22, respirabilná frakcia
	SK OEL	NPEL priemerný	0,1 mg/m3	Pevný aerosol, respirabilná frakcia

18 Za fibrogénny sa považuje nerozpustný pevný aerosól vrátane kvapiek aerosólu, ktorý obsahuje viac ako 1 % fibrogénnej zložky a v pokuse na zvierati vykazuje zreteľnú fibrogénnu reakciu pľúcneho tkaniva. Ak je v aerosóle obsiahnutá fibrogénna zložka, musí sa stanoviť vždy jeho respirabilná frakcia a koncentrácia fibrogénnej zložky. Ak aerosól obsahuje menej než 1 % SiO2 a neobsahuje azbest, považuje sa za aerosól s prevažne nešpecifickým účinkom.

19 Respirabilná frakcia je váhový podiel častíc pevného aerosólu <= 5 µm odobraného vo vzorke ovzdušia v dýchacej zóne zamestnanca. Spôsob a techniku odberu, stanovenie koncentrácie polietavého prachu v respirabilnej a inhalovateľnej frakcii v pracovnom ovzduší podľa prijatej Johannesburskej konvencie upravuje STN EN 481 Ovzdušie na pracovisku. Určenie veľkosti frakcií na meranie častíc rozptýlených vo vzduchu (83 3621) alebo iná obdobná technická špecifikácia s porovnateľnými alebo prísnejšími požiadavkami. Stratégiu merania, výber vhodného postupu a spracovanie výsledkov upravuje STN EN 482+A1 Pracovná expozícia. Všeobecné požiadavky na pracovné charakteristiky postupov merania chemických faktorov (83 3800) a STN EN 689+AC Pracovná expozícia. Meranie inhalačnej expozície chemickým faktorom. Stratégia skúšania zhody s limitnými hodnotami pracovnej expozície (83 3610) alebo iné obdobné technické špecifikácie s porovnateľnými alebo prísnejšími požiadavkami.
1A Kategória 1A - Dokázaný karcinogén pre ľudí
20 NPEL pre pevné aerosóly (prach) sa ustanovuje ako celozmenová priemerná hodnota expozície celkovej (inhalovateľnej) koncentrácie pevného aerosólu (NPELc) alebo jeho respirabilnej frakcie (NPELr). Ako vyhovujúcu možno hodnotiť expozíciu len vtedy, ak sú dodržané obidve hodnoty NPEL pre daný pevný aerosól. Ak ide o zmes, musí byť zároveň dodržaný NPEL pre jednotlivé zložky zmesi.
21 Fr je obsah fibrogénnej zložky v percentách v respirabilnej frakcii. Fibrogénna zložka - kremeň, kristobalit, tridymit, gama - oxid hlinitý.
22 Kremeň, kristobalit, tridymit, gama-oxid hlinitý je 100 % fibrogénnej zložky.
23 Pre pevné aerosóly, ktoré sú zároveň klasifikované ako karcinogény alebo mutagény kategórie 1A a kategórie 1B, sa ustanovujú technické smerné hodnoty (TSH). Definíciu TSH ustanovuje nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov. Požiadavky na meranie a hodnotenie azbestu ustanovuje nariadenie vlády Slovenskej republiky č. 253/2006 Z. z. o ochrane zamestnancov pred rizikami súvisiacimi s expozíciou azbestu pri práci.
Tabul'ka č. 3 pevné aerosóly s prevažne fibrogénnym účinkom
TSH Technické Smerné Hodnoty

SI

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba
Diatomaceous Earth	SI OEL	MV	4 mg/m3	Inhalabilna frakcija
Calcium Hydroxide	SI OEL	MV	1 mg/m3	Alveolarna frakcija
	SI OEL	KTV	4 mg/m3	Alveolarna frakcija

SE

Beståndsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
Calcium Hydroxide	SE AFS	NGV	1 mg/m3	inhalabel fraktion
	SE AFS	KGV	4 mg/m3	inhalabel fraktion
Crystalline Silica	SE AFS	NGV	0,1 mg/m3	3, C, M, Respirabelt
	SE AFS	NGV	0,1 mg/m3	C, Respirabel fraktion

3 Med inhalerbar fraktion menas den dammfraktion som definieras i svensk standard SS-EN 481, Arbetsplatsluft - Partikelstorleksfraktioner för mätning av luftburna partiklar, Utgåva 1, 1993, punkt 2.3 och som har en provtagningskaraktäristik enligt punkt 5.1. Med respirabel fraktion menas den dammfraktion som definieras i svensk standard SS-EN 481, Arbetsplatsluft - Partikelstorleksfraktioner för mätning av luftburna partiklar, Utgåva 1, 1993, punkt 2.11 och som har en provtagningskaraktäristik enligt punkt 5.3. Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i den provtagare som beskrivs i Metodserien, Provtagning av totaldamm och respirabelt damm, Metod nr 1010, Arbetarskyddsstyrelsen, numera Arbetsmiljöverket. Filterdiametern är normalt 37 mm, men kan även vara 25 mm. Trots sitt namn provtas inte den totala mängden luftburna partiklar med denna metod.
C Ämnet är cancerframkallande.
M Medicinska kontroller kan krävas för hantering av ämnet. Se vidare föreskrifterna om medicinska kontroller i arbetslivet. För vissa ämnen ska arbetsgivaren erbjuda läkarundersökning och för andra ämnen gäller krav på periodisk läkarundersökning och tjänstbarhetsbedömning. Se föreskrifterna om kemiska arbetsmiljörisker och föreskrifterna om kvarts - stendamm i arbetsmiljön.

RS

Компоненты	Основа	Величина	Параметры контроля	Заметка
Гидроксид кальция	RS OEL	GVI	5 mg/m3	EU,
Кристаллический диоксид кремния	RS OEL CM	TWA	0,1 mg/m3	Harmful through inhalation via the lungs

EU Substance mentioned in indicative exposure limit values in Directive 91/322 / EEC

RO

Componente	Sursă	Valoare	Parametri de control	Notă
Calcium Hydroxide	RO OEL	TWA	1 mg/m3	Fracţiune respalabilă
	RO OEL	STEL	4 mg/m3	Fracţiune respalabilă
Cellulose	RO OEL	TWA	10 mg/m3	fracţie inhalabilă
Crystalline Silica	RO OEL	TWA	0,1 mg/m3	Fracţiune respalabilă

PT

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Calcium Hydroxide	PT OEL	VLE-MP	5 mg/m3	
	PT DL 305/2007	oito horas	1 mg/m3	Fração respirável
	PT DL 305/2007	curta duração	4 mg/m3	Fração respirável
Cellulose	PT OEL	VLE-MP	10 mg/m3	
Crystalline Silica	PT OEL	VLE-MP	0,025 mg/m3	A2, Fração respirável

A2 Agente carcinogénico suspeito no Homem.

PL

Składniki	Podstawa	Wartość	Parametry dotyczące kontroli	Uwaga
Diatomaceous Earth	PL NDS	NDS	10 mg/m3	1, Główny kurz
	PL NDS	NDS	10 mg/m3	frakcja wdychana
	PL NDS	NDS	2 mg/m3	frakcja respirabilna

Calcium Hydroxide	PL NDS	NDS	2 mg/m3	frakcja wdychana
	PL NDS	NDS	1 mg/m3	frakcja respirabilna
	PL NDS	NDSch	6 mg/m3	frakcja wdychana
	PL NDS	NDSch	4 mg/m3	frakcja respirabilna
Crystalline Silica	PL NDS	NDS	0,1 mg/m3	frakcja respirabilna

1 Pył całkowity - zbiór wszystkich cząstek otoczonych powietrzem w określonej objętości powietrza.

NO

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Diatomaceous Earth	FOR-2011-12-06-1358	GV	1,5 mg/m3	respirabelt støv
	FOR-2011-12-06-1358	GV	1,5 mg/m3	respirabelt støv
Calcium Hydroxide	FOR-2011-12-06-1358	GV	1 mg/m3	respirabelt støv
	FOR-2011-12-06-1358	S	4 mg/m3	respirabelt støv
Cellulose	FOR-2011-12-06-1358	GV	5 mg/m3	totalstøv
Crystalline Silica	FOR-2011-12-06-1358	GV	0,1 mg/m3	K, respirabelt støv
	FOR-2011-12-06-1358	GV	0,3 mg/m3	K, totalstøv

K Kjemikalier som skal betraktes som kreftfremkallende.

NL

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Calcium Hydroxide	NL WG	TGG-8 uur	1 mg/m3	Respirabel
	NL WG	TGG-15 min	4 mg/m3	Respirabel
Crystalline Silica	NL WG	TGG-8 uur	0,075vezels per cm3	B1, Respirabel
	NL WG	TGG-8 uur	0,075vezels per cm3	B1, (respirabel stof)

B1 Kankerverwekkende stoffen, vastgesteld op basis van het drempelwaarde-effect

MT

Components	Basis	Value	Control parameters	Note
Calcium Hydroxide	MT OEL	TWA	1 mg/m3	Respirable fraction
	MT OEL	STEL	4 ppm,	Respirable fraction

MK

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Diatomaceous Earth	MK OEL	MV	4 mg/m3	Inhalable fraction - the part of the total suspended material that is inhaled by the employees
Calcium Hydroxide	MK OEL	MV	5 mg/m3	Inhalable fraction - the part of the total suspended material that is inhaled by the employees
Crystalline Silica	MK OEL	MV	0,15 mg/m3	Alveolar fraction

LV

Sastāvdaļas	Bāze	Vērtība	Pārvaldības parametri	Piezīme
Calcium Hydroxide	LV OEL	AER 8 st	1 mg/m3	Frakcija, kas var nonākt elpceļos
	LV OEL	AER īslaicīgā	6 mg/m3	Frakcija, kas var nonākt elpceļos
Cellulose	LV OEL	AER 8 st	2 mg/m3	
Crystalline Silica	LV OEL	AER 8 st	0,1 mg/m3	ieelpojamā frakcija

LU

Composants	Base	Valeur	Paramètres de contrôle	Note
Calcium Hydroxide	LU OEL	TWA	1 mg/m3	Fraction alvéolaire
	LU OEL	STEL	4 mg/m3	Fraction alvéolaire
Crystalline Silica	LU OEL	TWA	0,1 mg/m3	(poussières respirables)

LT

Komponentai	Šaltinis	Vertė	Kontrolės parametrai	Pastaba
Calcium Hydroxide	LT OEL	IPRD	1 mg/m3	O, alveolinė frakcija
	LT OEL	TPRD	4 mg/m3	O, alveolinė frakcija
Crystalline Silica	LT OEL	IPRD	0,1 mg/m3	alveolinė frakcija

O patekimas per nepažeistą odą

IT

Componenti	Base	Valore	Parametri di controllo	Nota
Calcium Hydroxide	IT VLEP	TWA	1 mg/m3	Frazione respirabile

	IT VLEP	STEL	4 mg/m3	Frazione respirabile

IS

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Diatomaceous Earth	IS OEL	TWA	1,5 mg/m3	Respirable
	IS OEL	TWA	1,5 mg/m3	(støv som kan innåndes)
Calcium Hydroxide	IS OEL	TWA	1 mg/m3	Respirable fraction
	IS OEL	STEL	4 mg/m3	Respirable fraction
Crystalline Silica	IS OEL	TWA	0,3 mg/m3	Total
	IS OEL	TWA	0,1 mg/m3	Respirable
	IS OEL	TWA	0,1 mg/m3	K, (støv som kan innåndes)
	IS OEL	TWA	0,3 mg/m3	K, Totalt støv

K Carcinogenic substances

IE

Components	Basis	Value	Control parameters	Note
Diatomaceous Earth	IE OEL	OELV - 8 hrs (TWA)	2,4 mg/m3	(respirable dust)
	IE OEL	OELV - 8 hrs (TWA)	6 mg/m3	inhalable dust
Calcium Hydroxide	IE OEL	OELV - 8 hrs (TWA)	1 mg/m3	respirable
	IE OEL	OELV - 15 min (STEL)	4 mg/m3	respirable
Cellulose	IE OEL	OELV - 8 hrs (TWA)	10 mg/m3	total inhalable
	IE OEL	OELV - 8 hrs (TWA)	4 mg/m3	respirable
	IE OEL	OELV - 15 min (STEL)	20 mg/m3	total inhalable
	IE OEL	OELV - 8 hrs (TWA)	10 mg/m3	
Crystalline Silica	IE OEL	OELV - 8 hrs (TWA)	0,1 mg/m3	respirable
	IE OEL	OELV - 8 hrs (TWA)	0,1 mg/m3	(respirable dust)

HU

Komponensek	Bázis	Érték	Ellenőrzési paraméterek	Megjegyzés
Calcium Hydroxide	HU OEL	AK-érték	1 mg/m3	EU4, N, respirábilis por
	HU OEL	CK-érték	4 mg/m3	EU4, N, respirábilis por
Crystalline Silica	HU OEL	AK-érték	0,15 mg/m3	respirábilis frakció
	HU OEL	AK-érték	0,1 mg/m3	EU6, respirábilis por

EU4 2017/164 EU irányelvben közölt érték
EU6 2019/130 EU irányelvben közölt érték
N Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok. Korrekció NEM szükséges.

HR

Sastojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka
Diatomaceous Earth	HR OEL	GVI	4 mg/m3	ukupna prašina, inhalabilne čestice
	HR OEL	GVI	1,2 mg/m3	respirabilna prašina
Calcium Hydroxide	HR OEL	GVI	1 mg/m3	respirabilna prašina
	HR OEL	KGVI	4 mg/m3	respirabilna prašina
Cellulose	HR OEL	GVI	10 mg/m3	ukupna prašina, inhalabilne čestice
	HR OEL	GVI	4 mg/m3	respirabilna prašina
	HR OEL	KGVI	20 mg/m3	ukupna prašina, inhalabilne čestice
Crystalline Silica	HR OEL	GVI	0,1 mg/m3	

GR

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Calcium Hydroxide	GR OEL	TWA	1 mg/m3	Αναπνεύσιμο κλάσμα
	GR OEL	STEL	4 mg/m3	Αναπνεύσιμο κλάσμα
Crystalline Silica	GR OEL	TWA	0,1 mg/m3	Αναπνεύσιμο κλάσμα

GB

Components	Basis	Value	Control parameters	Note
Diatomaceous Earth	GB EH40	TWA	1,2 mg/m3	(respirable dust)
Calcium Hydroxide	GB EH40	TWA	5 mg/m3	
	GB EH40	TWA	1 mg/m3	Respirable fraction
	GB EH40	STEL	4 mg/m3	Respirable fraction
Cellulose	GB EH40	TWA	10 mg/m3	inhalable dust
	GB EH40	TWA	4 mg/m3	(respirable dust)
	GB EH40	STEL	20 mg/m3	inhalable dust
Crystalline Silica	GB EH40	TWA	0,1 mg/m3	13, 43, 44, 45, 46, 14, Respirable fraction
	GB EH40	TWA	0,1 mg/m3	Carc, Respirable fraction

13 For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols.
14 Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.
43 The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will

be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits.

44 Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'.

45 Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4.

46 Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with.

Carc Capable of causing cancer and/or heritable genetic damage.

FR

Composants	Base	Valeur	Paramètres de contrôle	Note
Calcium Hydroxide	FR VLE	VME	1 mg/m3	Valeurs limites indicatives, Fraction alvéolaire
	FR VLE	VLCT (VLE)	4 mg/m3	Valeurs limites indicatives, Fraction alvéolaire
Cellulose	FR VLE	VME	10 mg/m3	Valeurs limites indicatives,
Crystalline Silica	FR VLE	VME	0,1 mg/m3	VLR contraignantes, Fraction de poussière alvéolaire

Valeurs limites indicatives Valeurs limites indicatives

VLR contraignantes Valeurs limites réglementaires contraignantes

FI

Aineosat	Peruste	Arvo	Valvontaa koskevat muuttujat	Huomautus
Diatomaceous Earth	FI OEL	HTP-arvot 8h	5 mg/m3	
Calcium Hydroxide	FI OEL	HTP-arvot 8h	1 mg/m3	
	FI OEL	HTP-arvot 15 min	4 mg/m3	
Cellulose	FI OEL	HTP-arvot 8h	5 mg/m3	Pöly
	FI OEL	HTP-arvot 15 min	10 mg/m3	Pöly
Crystalline Silica	FI OEL	HTP-arvot 8h	0,2 mg/m3	-, alveolijae
	FI OEL	HTP-arvot 8h	0,05 mg/m3	alveolijae
	FI OEL CM	TWA	0,1 mg/m3	Keuhkorakkuloihin päätyvä osuus (alveolijae)

\- Valtioneuvoston päätös räjäytys- ja louhintatyön järjestysohjeista [410/1986]

ES

Componentes	Base	Valor	Parámetros de control	Nota
Cellulose	ES VLA	VLA-ED	10 mg/m3	
Calcium Hydroxide	ES VLA	VLA-ED	1 mg/m3	fracción respirable
	ES VLA	VLA-EC	4 mg/m3	fracción respirable
Crystalline Silica	ES VLA	VLA-ED	0,05 mg/m3	fracción respirable

EE

Komponendid, osad	Alused	Väärtus	Kontrolliparameetrid	Märkused
Calcium Hydroxide	EE OEL	Piirnorm	1 mg/m3	
	EE OEL	Lühiajalise kokkupuute piirnorm	4 mg/m3	
Cellulose	EE OEL	Piirnorm	10 mg/m3	Peentolm
Crystalline Silica	EE OEL	Piirnorm	0,1 mg/m3	1, Peentolm
	EE OEL	Piirnorm	0,1 mg/m3	C, Peentolm

1 Peentolm koosneb alla 2,5-mikromeetrise läbimõõduga osakestest, mis võivad jõuda koos sissehingatava õhuga kopsu alveoolidesse (respireeritav fraktsioon).

C Kantserogeensed ained

DK

Komponenter	Basis	Værdi	Kontrolparametre	Note
Diatomaceous Earth	DK OEL	GV	1,5 mg/m3	(respirabelt støv)
Calcium Hydroxide	DK OEL	GV	5 mg/m3	
	DK OEL	GV	1 mg/m3	respirabel fraktion
Crystalline Silica	DK OEL	GV	0,1 mg/m3	K, (respirabelt støv)
	DK OEL	GV	0,3 mg/m3	Totalt støv

K Betyder, at stoffet er optaget på listen over stoffer, der anses for at være kræftfremkaldende.

DE

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Diatomaceous Earth	DE TRGS 900	AGW	4 mg/m3	Y, Einatembare Fraktion
Calcium Hydroxide	DE TRGS 900	AGW	1 mg/m3	Y, Einatembare Fraktion

Y Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden

CZ

Složky	Základ	Hodnota	Kontrolní parametry	Poznámka
Diatomaceous Earth	CZ OEL	PEL	10 mg/m3	vlákno, celková koncentrace
	CZ OEL	PEL	10:Fr mg/m3	vlákno, respirabilní frakce
	CZ OEL	PEL	2 mg/m3	vlákno, respirabilní frakce
	CZ OEL	PEL	10 mg/m3	vlákno, celková koncentrace
Calcium Hydroxide	CZ OEL	PEL	1 mg/m3	I, dýmy, respirabilní frakce aerosolu
	CZ OEL	NPK-P	4 mg/m3	I, dýmy, respirabilní frakce aerosolu
Crystalline Silica	CZ OEL	PEL	0,1 mg/m3	vlákno, respirabilní frakce

I dráždí sliznice (oči, dýchací cesty), respektive kůži

CY

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Diatomaceous Earth	CY OEL 2	Μ.Ε.Σ.	5 mg/m3	
	CY OEL 2	Μ.Ε.Σ.	2 mg/m3	
	CY OEL 2	Μ.Ε.Σ.	5 mg/m3	
	CY OEL 2	Μ.Ε.Σ.	2 mg/m3	
Calcium Hydroxide	CY OEL	TWA	1 mg/m3	Αναπνεύσιμο κλάσμα
	CY OEL	STEL	4 mg/m3	Αναπνεύσιμο κλάσμα

CH

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Diatomaceous Earth	CH SUVA	MAK-Wert	4 mg/m3	SSc, einatembarer Staub
Calcium Hydroxide	CH SUVA	MAK-Wert	1 mg/m3	NIOSH, SSc, einatembarer Staub
	CH SUVA	KZGW	4 mg/m3	NIOSH, SSc, einatembarer Staub
Cellulose	CH SUVA	MAK-Wert	3 mg/m3	NIOSH, alveolengängiger Staub
Crystalline Silica	CH SUVA	MAK-Wert	0,15 mg/m3	Carc.Cat.1, NIOSH, OSHA, HSE, SSc, alveolengängiger Staub

Carc.Cat.1 Krebserzeugende Stoffe Kategorie 1
HSE Health and Safety Executive (Occupational Medicine and Hygiene Laboratory)
NIOSH National Institute for Occupational Safety and Health
OSHA Occupational Safety and Health Administration
SSc Eine Schädigung der Leibesfrucht braucht bei Einhaltung des MAK-Wertes nicht befürchtet zu werden.

BG

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Calcium Hydroxide	BG OEL	TWA	1 mg/m3	Респирабилна
	BG OEL	STEL	4 mg/m3	Респирабилна
Crystalline Silica	BG OEL	TWA	0,07 mg/m3	Респирабилна
	BG OEL	TWA	0,1 mg/m3	дял на праха, който може да се вдишва

BE

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Diatomaceous Earth	BE OEL	TGG 8 hr	10 mg/m3	inhaleerbare fractie
	BE OEL	TGG 8 hr	3 mg/m3	inadembare fractie
Calcium Hydroxide	BE OEL	TGG 8 hr	1 mg/m3	inadembare fractie
	BE OEL	TGG 15 min	4 mg/m3	inadembare fractie
Cellulose	BE OEL	TGG 8 hr	10 mg/m3	
Crystalline Silica	BE OEL	TGG 8 hr	0,1 mg/m3	inadembare fractie
	BE OEL	TGG 8 hr	0,1 mg/m3	C, (respirabel stof)

C De betrokken stof valt onder het toepassingsgebied van het koninklijk besluit van 2 december 1993 betreffende de bescherming van de werknemers tegen de risico's van blootstelling aan kankerverwekkende en mutagene agentia op het werk.

AT

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Diatomaceous Earth	AT OEL	TRK-TMW	4 mg/m3	einatembare Fraktion
	AT OEL	TRK-TMW	0,3 mg/m3	alveolengängiger Anteil
	AT OEL	MAK-TMW	4 mg/m3	einatembare Fraktion
	AT OEL	MAK-TMW	0,3 mg/m3	alveolengängiger Anteil
Calcium Hydroxide	AT OEL	MAK-TMW	1 mg/m3	einatembare Fraktion
	AT OEL	MAK-KZW	4 mg/m3	einatembare Fraktion
Crystalline Silica	AT OEL	MAK-TMW	0,15 mg/m3	Alveolengängige Staubfraktion

8.2

Exposure controls
Engineering measures

Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection	:	If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as:. Air-Purifying Respirator for Dusts and Mists / P100. A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
Hand protection	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	:	Eye wash bottle with pure water. Tightly fitting safety goggles.
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate:. Protective suit. Safety shoes.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

9.1

Information on basic physical and chemical properties

Appearance

Physical state	:	solid
Color	:	Light brown
Odor	:	Mild, earthy

Safety data

Flash point	:	Not applicable

Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Oxidizing properties	:	no
Autoignition temperature	:	Not applicable
Molecular formula	:	Mixture
Molecular weight	:	Not applicable
pH	:	Not applicable
Pour point	:	No data available
Boiling point/boiling range	:	Not applicable
Vapor pressure	:	Not applicable
Relative density	:	2 Water = 1.0
Bulk density	:	20,2 LB/FT3
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Viscosity, kinematic	:	No data available
Relative vapor density	:	Not applicable
Evaporation rate	:	No data available

SECTION 10: Stability and reactivity

10.1

Reactivity : Stable at normal ambient temperature and pressure.

10.2

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3

Possibility of hazardous reactions

Hazardous reactions : Hazardous reactions: Hazardous polymerization does not

occur.

Further information: No decomposition if stored and applied as directed.

10.4
Conditions to avoid : Generation of Dusts.

10.5
Materials to avoid : Strong acids.

10.6
Hazardous decomposition products : None

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1
Information on toxicological effects

Acute oral toxicity

Calcium Hydroxide : LD50: 7.340 mg/kg
Species: Rat

Diaseal M® Lost Circulation Material
Skin irritation : Irritating to skin.

Diaseal M® Lost Circulation Material
Eye irritation : Risk of serious damage to eyes.

Diaseal M® Lost Circulation Material
Aspiration toxicity : No aspiration toxicity classification.

Specific Target Organ Toxicity (Single Exposure)
Calcium Hydroxide : Assessment: May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure)
Crystalline Silica : Route of Exposure:Inhalation
Target Organs: Lungs
Assessment: Causes damage to organs through prolonged or repeated exposure.

CMR effects

Crystalline Silica : Carcinogenicity: Human carcinogen.

11.2
Information on other hazards

Further information

Crystalline Silica	:	Chronic Health Hazard.
Endocrine disrupting properties	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1
Toxicity

Ecotoxicity effects
Toxicity to fish

Calcium Hydroxide	:	LC50: 160 mg/l Exposure time: 96 h Species: Gambusia affinis (Fish, fresh water) static test

12.2
Persistence and degradability

Biodegradability	:	Not applicable

12.3
Bioaccumulative potential
Elimination information (persistence and degradability)

Bioaccumulation	:	This material is not expected to bioaccumulate.

12.4
Mobility in soil

Mobility	:	immobile

12.5
Results of PBT and vPvB assessment

Results of PBT assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6
Endocrine disrupting properties

Endocrine disrupting properties	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7
Other adverse effects

Additional ecological information	:	This material is not expected to be harmful to aquatic organisms.

12.8

Additional Information

Ecotoxicology Assessment

Short-term (acute) aquatic hazard	:	This material is not expected to be harmful to aquatic organisms.
Long-term (chronic) aquatic hazard	:	This material is not expected to be harmful to aquatic organisms.

SECTION 13: Disposal considerations

13.1

Waste treatment methods

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product	:	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14: Transport information

14.1 - 14.7

Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR

TRANSPORTATION BY THIS AGENCY.

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information

15.1

Safety, health and environmental regulations/legislation specific for the substance or mixture
National legislation

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Water hazard class (Germany) : WGK 1 slightly water endangering

15.2

Major Accident Hazard Legislation : ZEU_SEVES3 Update:
Not applicable

Notification status

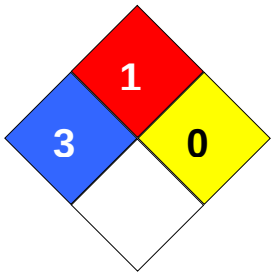
Europe REACH	:	This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Other AICS	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory
Korea KECI	:	A substance(s) in this product was not registered, notified to be registered, or exempted from registration

by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).

Philippines PICCS	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 3
Fire Hazard: 1
Reactivity Hazard: 0



Further information

Legacy SDS Number : 59340

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AIIC	Australian Inventory of Industrial Chemicals	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances

MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%	ATE	Acute toxicity estimate

Full text of H-Statements referred to under sections 2 and 3.

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H350	May cause cancer.
H350i	May cause cancer by inhalation.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.

Annex: Exposure Scenarios

Table of Contents

ES 1: Use in Oil and Gas field drilling and production operations - Industrial; Industrial uses (SU3); Closed systems.

1.1. Title section

Exposure Scenario name	:	Use in Oil and Gas field drilling and production operations - Industrial
Structured Short Title	:	Use in Oil and Gas field drilling and production operations - Industrial; Industrial uses (SU3); Closed systems.

Environment		
CS 1	**Use in oil and gas field drilling and production operations**	ERC4
Worker		
CS 2	**Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions**	PROC1
CS 3	**Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions**	PROC2
CS 4	**Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition**	PROC3
CS 5	**Chemical production where opportunity for exposure arises**	PROC4
CS 6	**Transfer of substance or mixture (charging/discharging) at non dedicated-facilities**	PROC8a
CS 7	**Transfer of substance or mixture (charging/discharging) at dedicated facilities**	PROC8b

1.2. Conditions of use affecting exposure

1.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Product (article) characteristics		
Physical form of product	:	Aqueous solution
Amount used (or contained in articles), frequency and duration of use/exposure		
Release type	:	Intermittent release
Emission days	:	12
Remarks	:	The daily and annual amount per site (for point sources) is not considered to be the main determinant for environmental exposure.
Technical and organisational conditions and measures		

Risk management measures related to the environment aim to avoid discharging lime solutions into municipal wastewater or to surface water, in case such discharges are expected to cause significant pH changes. Regular control of the pH value during introduction into open waters is required. In general discharges should be carried out such that pH changes in receiving surface waters are minimised (e.g. through neutralisation). In general most aquatic organisms can tolerate pH values in the range of 6-9. This is also reflected in the description of standard OECD tests with aquatic organisms. The justification for this risk management measure can be found in the introduction section.

Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	Solid industrial waste of lime should be reused or discharged to the industrial wastewater and further neutralized if needed.

Other conditions affecting environmental exposure		
Receiving surface water flow	:	18.000 m3/d

1.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics		
Physical form of product	:	Aqueous solution

Amount used (or contained in articles), frequency and duration of use/exposure		
Use frequency	:	480 min/event

Technical and organisational conditions and measures

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

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

1.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics		
Physical form of product	:	Aqueous solution

Amount used (or contained in articles), frequency and duration of use/exposure		
Use frequency	:	480 min/event

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

1.2.4. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics		
Physical form of product	:	Aqueous solution
Amount used (or contained in articles), frequency and duration of use/exposure		
Use frequency	:	480 min/event
Technical and organisational conditions and measures		
Risk management measures at the process level (e.g. containment or segregation of the emission source) are generally not required in the processes. Avoid inhalation or ingestion. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no eating and smoking at the workplace, the wearing of standard working clothes and shoes unless otherwise stated below. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home. Do not blow dust off with compressed air.		

1.2.5. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics		
Physical form of product	:	Aqueous solution
Amount used (or contained in articles), frequency and duration of use/exposure		
Use frequency	:	480 min/event
Technical and organisational conditions and measures		
Risk management measures at the process level (e.g. containment or segregation of the emission source) are generally not required in the processes. Avoid inhalation or ingestion. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involve good personal and housekeeping practices (i.e.		

regular cleaning with suitable cleaning devices), no eating and smoking at the workplace, the wearing of standard working clothes and shoes unless otherwise stated below. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home. Do not blow dust off with compressed air.

1.2.6. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Product (article) characteristics		
Physical form of product	:	Aqueous solution
Amount used (or contained in articles), frequency and duration of use/exposure		
Use frequency	:	480 min/event
Technical and organisational conditions and measures		

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

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

1.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Product (article) characteristics		
Physical form of product	:	Aqueous solution
Amount used (or contained in articles), frequency and duration of use/exposure		
Use frequency	:	480 min/event
Technical and organisational conditions and measures		

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

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

1.3. Exposure estimation and reference to its source

1.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Additional information on exposure estimation
Waste water from lime substance production is an inorganic wastewater stream and therefore there is no biological treatment. Therefore, wastewater streams from lime substance production sites will normally not be treated in biological waste water treatment plants (WWTPs), but can be used for pH control of acid wastewater streams that are treated in biological WWTPs. When lime substance is emitted to surface water, sorption to particulate matter and sediment will be negligible. When lime is rejected to surface water, the pH may increase, depending on the buffer capacity of the water. The higher the buffer capacity of the water, the lower the effect on pH will be. In general the buffer capacity preventing shifts in acidity or alkalinity in natural waters is regulated by the equilibrium between carbon dioxide (CO2), the bicarbonate ion (HCO3-) and the carbonate ion (CO32-). The sediment compartment is not included in this ES, because it is not considered relevant for lime substance: when lime substance is emitted to the aquatic compartment, sorption of to sediment particles is negligible. The terrestrial compartment is not included in this exposure scenario, because it is not considered to be relevant. The air compartment is not included in this CSA because it is considered not relevant for lime substance: when emitted to air as an aerosol in water, lime substance is neutralised as a result of its reaction with CO2 (or other acids), into HCO3- and Ca2+. Subsequently, the salts (e.g. calcium(bi)carbonate) are washed out from the air and thus the atmospheric emissions of neutralised lime substance largely end up in soil and water.

1.3.2. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Exposure route	Health effect	Exposure indicator	Exposure estimate	RCR
inhalative	systemic	Long-term	0,001 mg/m³ (MEASE)	0,001

1.3.3. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure route	Health effect	Exposure indicator	Exposure estimate	RCR
inhalative	systemic	Long-term	0,001 mg/m³ (MEASE)	0,001

1.3.4. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Exposure route	Health effect	Exposure indicator	Exposure estimate	RCR
inhalative	systemic	Long-term	0,01 mg/m³ (MEASE)	0,01

1.3.5. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Exposure route	Health effect	Exposure indicator	Exposure estimate	RCR
inhalative	systemic	Long-term	0,05 mg/m³ (MEASE)	0,05

1.3.6. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Exposure route	Health effect	Exposure indicator	Exposure estimate	RCR
inhalative	systemic	Long-term	0,05 mg/m³ (MEASE)	0,5

1.3.7. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Exposure route	Health effect	Exposure indicator	Exposure estimate	RCR
inhalative	systemic	Long-term	0,01 mg/m³ (MEASE)	0,01

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

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

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