

**Drill-Thin® Thinner**

Version 4.4

Revision Date 2026-08-31

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 information**

Product Name : Drill-Thin® Thinner
Material : 1016816

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

Relevant Identified Uses : Drilling Mud Additive
Supported
Uses advised against : This material should not be used for purposes other than the identified uses in section 1 without expert advice.

1.3**Details of the supplier of the safety data sheet**

Company : Chevron Phillips Chemical Company LP
Drilling Specialties Company LLC
9500 Lakeside Blvd.
The Woodlands, TX 77381

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)

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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: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02 66101029; POISON CENTER ROME – Policlinico “Agostino Gemelli”, Servizio di tossicologia clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù Tel. +39 06 68593726; POISON CENTER ROME – Policlinico “Umberto I” Tel. +39 06 4997 8000; POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326; POISON CENTER NAPLES – Azienda Ospedaliera “Antonio Cardarelli” Tel. +39 081 7472870; POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055 7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382 24444; POISON CENTER BERGAMO – Azienda Ospedaliera “Papa Giovanni XXIII” Tel. 800 883 300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011 858;
 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

Organization that prepared the SDS : 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**

Serious eye damage, Category 1	H318: Causes serious eye damage.
Carcinogenicity, Category 1A	H350i: May cause cancer by inhalation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2**Labeling (REGULATION (EC) No 1272/2008)**

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Hazard pictograms

:



Signal Word

: Danger

Hazard Statements

:

H318

Causes serious eye damage.

H350i

May cause cancer by inhalation.

H373

May cause damage to organs through prolonged or repeated exposure.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary Statements

: **Prevention:**

P201

Obtain special instructions before use.

P260

Do not breathe dust.

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing 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.

P391

Collect spillage.

Hazardous ingredients which must be listed on the label:

- 7758-99-8 Copper sulfate, pentahydrate
- 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

Synonyms

: Drilling Mud Additive

Molecular formula

: Mixture

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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
Sulfomethylated Quebracho	68201-64-9 269-229-3	Aquatic Chronic 3; H412	50 - 80	
Ferrous Sulfate	17375-41-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319	1 - 10	
Copper sulfate, pentahydrate	7758-99-8 029-023-00-4	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0 - 10	ATE 481 mg/kg M [Acute]=10 M [Chronic]=1
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. Consult a physician. Show this material safety data sheet to the doctor in attendance.
- If inhaled : 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 : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

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

- Symptoms : No data available.

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Risks : No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

Flash point : 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 : Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

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

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

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**

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**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. 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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
- Uses advised against : This material should not be used for purposes other than the identified uses in section 1 without expert advice.

SECTION 8: Exposure controls/personal protection**8.1****Control parameters
Ingredients with workplace control parameters****SK**

Zložky	Podstata	Hodnota	Kontrolné parametre	Poznámka
Copper sulfate, pentahydrate	SK OEL	NPEL priemerný	0,2 mg/m3	Dymy
	SK OEL	NPEL priemerný	0,2 mg/m3	respirabilná frakcia
	SK OEL	NPEL priemerný	1 mg/m3	inhalovateľná frakcia
Crystalline Silica	SK OEL CMR	NPEL priemerný	0,1 mg/m3	1A, Merané ako respirabilná frakcia
	SK OEL	NPEL priemerný	0,1 mg/m3	TSH, 21, 19, Tabuľka 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 % oxidu kremičitého (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 poľietavého prachu v respirabilnej a inhalovateľnej frakcii v pracovnom ovzduší podľa prijatej Johannesburgskej 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. Stratégu merania, výber vhodného postupu a spracovanie výsledkov upravuje STN EN 482 Pracovná expozícia. Postupy na stanovenie koncentrácie chemických faktorov. Základné požiadavky na pracovné charakteristiky (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

21 Fr je obsah fibrogénnej zložky v percentách v respirabilnej frakcii. Fibrogénnou zložkou je 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 karcinogénny alebo mutagénny 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

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Tabul'ka č. 3 ochrane zamestnancov pred rizikami súvisiacimi s expozíciou azbestu pri práci.
TSH pevné aerosóly s prevažne fibrogénnym účinkom
Technické Smerné Hodnoty

SE

Beståndsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
Copper sulfate, pentahydrate	AFS 2023:14	NGV	0,01 mg/m3	Respirabel fraktion
Crystalline Silica	AFS 2023:14	NGV	0,1 mg/m3	3, C, M, Respirabelt
	AFS 2023:14	NGV	0,1 mg/m3	C, Respirabel fraktion

- 3 Med inhalerbar fraktion menas den dammfraction 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 dammfraction 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.

RU

Компоненты	Основа	Величина	Параметры контроля	Заметка
Copper sulfate, pentahydrate	RU OEL	ПДК	0,5 mg/m3	2, Аэрозоль
	RU OEL	ПДК разовая	1,5 mg/m3	2, Аэрозоль
	РФ ПДК	ПДК	0,5 mg/m3	2, аэрозоль
	РФ ПДК	ПДК разовая	1,5 mg/m3	2, аэрозоль
Crystalline Silica	RU OEL	ПДК	1 mg/m3	Ф, 3, аэрозоль- общей массы
	RU OEL	ПДК разовая	3 mg/m3	Ф, 3, аэрозоль- общей массы
	RU OEL	ПДК	1 mg/m3	Ф, 3, аэрозоль- общей массы
	RU OEL	ПДК разовая	3 mg/m3	Ф, 3, аэрозоль- общей массы
	РФ ПДК	ПДК	1 mg/m3	Ф, 3, аэрозоль- общей массы
	РФ ПДК	ПДК разовая	3 mg/m3	Ф, 3, аэрозоль- общей массы

- 2 2 класс - высокоопасные
- 3 3 класс - опасные
- Ф аэрозоли преимущественно фиброгенного действия

RS

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

RO

Componente	Sursă	Valoare	Parametri de control	Notă
Crystalline Silica	RO OEL	TWA	0,1 mg/m3	Fracțiune respalabilă
	RO OEL	TWA	0,1 mg/m3	Fracțiune respalabilă

PT

Componentes	Base	Valor	Parâmetros de controle	Nota
Ferrous Sulfate	PT OEL	VLE-MP	1 mg/m3	
Crystalline Silica	PT OEL	VLE-MP	0,025 mg/m3	A2, Fração respirável
	PT DL 88/2015	TWA	0,05 mg/m3	fração de pó respirável

A2 Agente carcinogénico suspeito no Homem.

PL

Składniki	Podstawa	Wartość	Parametry dotyczące kontroli	Uwaga
Copper sulfate, pentahydrate	PL NDS	NDS	0,2 mg/m3	
Crystalline Silica	PL NDS	NDS	0,1 mg/m3	frakcja respirabilna

NO

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Ferrous Sulfate	FOR-2011-12-06-1358	GV	1 mg/m3	
Crystalline Silica	FOR-2011-12-06-1358	GV	0,05 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
Copper sulfate, pentahydrate	NL WG	TGG-8 uur	0,1 mg/m3	Inhaleerbaar
Crystalline Silica	NL WG	TGG-8 uur	0,075vezels per cm3	B1, Respirabel

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	NL WG	TGG-8 uur	0,075 mg/m3	B1, (respirabel stof)
B1 Kankerverwekkende stoffen, vastgesteld op basis van het drempelwaarde-effect				

MK

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Copper sulfate, pentahydrate	MK OEL	MV	1 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	Kontroles parametri	Piezīme
Copper sulfate, pentahydrate	LV OEL	AER 8 st	0,5 mg/m3	
Crystalline Silica	LV OEL	AER 8 st	0,1 mg/m3	ieelpojamā frakcija

LU

Composants	Base	Valeur	Paramètres de contrôle	Note
Crystalline Silica	LU OEL	TWA	0,1 mg/m3	(poussières respirables)

LT

Komponentai	Šaltinis	Vertė	Kontrolės parametrai	Pastaba
Copper sulfate, pentahydrate	LT OEL	IPRD	1 mg/m3	įkvėpiamoji frakcija
	LT OEL	IPRD	0,2 mg/m3	alveolinė frakcija
Crystalline Silica	LT OEL	IPRD	0,1 mg/m3	alveolinė frakcija
	LT OEL	IPRD	0,1 mg/m3	alveolinė frakcija

IS

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Ferrous Sulfate	IS OEL	TWA	1 mg/m3	
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
Ferrous Sulfate	IE OEL	OELV - 8 hrs (TWA)	1 mg/m3	
	IE OEL	OELV - 15 min (STEL)	2 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
Copper sulfate, pentahydrate	HU OEL	AK-érték	0,1 mg/m3	R,
	HU OEL	CK-érték	0,2 mg/m3	R,
Crystalline Silica	HU OEL	AK-érték	0,15 mg/m3	respirábilis frakció
	HU OEL	AK-érték	0,1 mg/m3	EU6, respirábilis por

EU6 2019/130 EU irányelvben közölt érték

R Azok az anyagok, amelyek egészségkárosító hatása RÖVID expozíció hatására jelentkezik. Korrigált ÁK = ÁK x 8/a napi óraszám

HR

Sastojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka
Ferrous Sulfate	HR OEL	GVI	1 mg/m3	
	HR OEL	KGVI	2 mg/m3	
Crystalline Silica	HR OEL	GVI	0,1 mg/m3	

GR

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Ferrous Sulfate	GR OEL	TWA	1 mg/m3	
	GR OEL	STEL	2 mg/m3	
Crystalline Silica	GR OEL	TWA	0,1 mg/m3	Αναπνεύσιμο κλάσμα

GB

Components	Basis	Value	Control parameters	Note
Ferrous Sulfate	GB EH40	TWA	1 mg/m3	
	GB EH40	STEL	2 mg/m3	
Copper sulfate, pentahydrate	GB EH40	TWA	1 mg/m3	Dusts and mists
	GB EH40	STEL	2 mg/m3	Dusts and mists
Crystalline Silica	GB EH40	TWA	0,1 mg/m3	13, 43, 44, 45, 46, 14, Respirable fraction

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	GB EH40	TWA	0,1 mg/m3	Carc, 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
Crystalline Silica	FR VLE	VME	0,1 mg/m3	VLR contraignantes, Fraction de poussière alvéolaire
	FR VLE	VME	0,1 mg/m3	VLR contraignantes, Fraction de poussière alvéolaire

VLR Valeurs limites réglementaires contraignantes
contraignantes

FI

Aineosat	Peruste	Arvo	Valvontaa koskevat muuttujat	Huomautus
Ferrous Sulfate	FI OEL	HTP-arvot 8h	1 mg/m3	
Copper sulfate, pentahydrate	FI OEL	HTP-arvot 8h	0,02 mg/m3	alveolijae
Crystalline Silica	FI OEL	HTP-arvot 8h	0,2 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
Ferrous Sulfate	ES VLA	VLA-ED	1 mg/m3	
Copper sulfate, pentahydrate	ES VLA	VLA-ED	0,01 mg/m3	fracción respirable
Crystalline Silica	ES VLA	VLA-ED	0,05 mg/m3	fracción respirable

EE

Komponendid, osad	Alused	Väärtus	Kontrolliparameetrid	Märkused
Copper sulfate, pentahydrate	EE OEL	Piirnorm	1 mg/m3	Kogu tolmu
	EE OEL	Piirnorm	0,2 mg/m3	Peentolmu
Crystalline Silica	EE OEL	Piirnorm	0,1 mg/m3	1, Peentolmu
	EE OEL	Piirnorm	0,1 mg/m3	C, Sissehingatav tolmu

- 1 Peentolmu koosneb alla 2,5-mikromeetrise läbimõõduga osakestest, mis võivad koos sissehingatava õhuga jõuda kopsualveoolidesse (respireeritav fraktsioon).
- C Kantserogeensed ained

DK

Komponenter	Basis	Værdi	Kontrolparametre	Note
Ferrous Sulfate	DK OEL	GV	1 mg/m3	
	DK OEL	S	2 mg/m3	
Crystalline Silica	DK OEL	GV	0,1 mg/m3	K, (respirabelt støv)
	DK OEL	GV	0,3 mg/m3	Totalt støv
	DK OEL	GV	0,3 mg/m3	total
	DK OEL	GV	0,1 mg/m3	K, respirabel
	DK OEL	S	0,6 mg/m3	total pulver og støv
	DK OEL	S	0,2 mg/m3	indåndbar fraktion

K Stoffet anses for at kunne være kræftfremkaldende

DE

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Copper sulfate, pentahydrate	DE DFG MAK	MAK	0,01 mg/m3	C, gemessen als alveolengängige Fraktion

C Eine fruchtschädigende Wirkung ist bei Einhaltung des MAK- und BATWertes nicht anzunehmen

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CZ

Složky	Základ	Hodnota	Kontrolní parametry	Poznámka
Crystalline Silica	CZ OEL	PEL	0,1 mg/m3	respirabilní prach
	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

CH

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Ferrous Sulfate	CH SUVA	MAK-Wert	1 mg/m3	OSHA, einatembarer Staub
Copper sulfate, pentahydrate	CH SUVA	MAK-Wert	0,1 mg/m3	NIOSH, SSc, einatembarer Staub
	CH SUVA	KZGW	0,2 mg/m3	NIOSH, SSc, einatembarer 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 Gesundheits- und Sicherheitsbeauftragter (Labor für Arbeitsmedizin und Hygiene)

NIOSH Nationales Institut für Arbeitssicherheit und Gesundheit

OSHA Arbeitssicherheit- und Gesundheitsbehörde

SSc Eine Schädigung der Leibesfrucht braucht bei Einhaltung des MAK-Wertes nicht befürchtet zu werden.

BG

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Ferrous Sulfate	BG OEL	TWA	1 mg/m3	
Copper sulfate, pentahydrate	BG OEL	TWA	1 mg/m3	
Crystalline Silica	BG OEL	TWA	0,07 mg/m3	Респирабилна
	BG OEL	TWA	0,1 mg/m3	дъл на праха, който може да се вдишва

BE

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Ferrous Sulfate	BE OEL	TGG 8 hr	1 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
Copper sulfate, pentahydrate	AT OEL	MAK-TMW	0,1 mg/m3	Rauch, alveolengängiger Anteil
	AT OEL	MAK-TMW	1 mg/m3	einatembare Fraktion
	AT OEL	MAK-KZW	0,4 mg/m3	Rauch, alveolengängiger Anteil
	AT OEL	MAK-KZW	4 mg/m3	einatembare Fraktion
Crystalline Silica	AT OEL	MAK-TMW	0,15 mg/m3	Alveolengängige Staubfraktion
	AT OEL	MAK-TMW	0,05 mg/m3	Alveolengängige Staubfraktion

8.2**Exposure controls****Engineering measures**

Adequate ventilation to control airborne 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

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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. Air-Purifying Respirator for Dusts and Mists. 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.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Protective suit. Complete head face and neck protection. Footwear protecting against chemicals. 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**

- Form : Powder
- Physical state : solid
- Color : Reddish brown
- Odor : musty
- Odor Threshold : No data available

Safety data

- Flash point : Not applicable
- Lower explosion limit : Not applicable
- Upper explosion limit : Not applicable
- Molecular formula : Mixture
- Molecular weight : Not applicable
- pH : 6

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Melting point/ range : No data available

Freezing point : No data available

Pour point : No data available

Boiling point/boiling range : Not applicable

Vapor pressure : Not applicable

Density : No data available

Water solubility : Completely Soluble

Partition coefficient: n-octanol/water : No data available

Viscosity, kinematic : Not applicable

Relative vapor density : Not applicable

Evaporation rate : Not applicable

SECTION 10: Stability and reactivity**10.1****Reactivity** : Stable under recommended storage conditions.**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** : Further information: No decomposition if stored and applied as directed.**10.4****Conditions to avoid** : No data available.**10.5****Materials to avoid** : No data available.**10.6****Other data** : No decomposition if stored and applied as directed.

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SECTION 11: Toxicological information**11.1****Information on toxicological effects****Drill-Thin® Thinner****Acute oral toxicity**

: Acute toxicity estimate: 2.232 mg/kg
Method: Calculation method

Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Acute dermal toxicity

Sulfomethylated Quebracho

:
No data available

Drill-Thin® Thinner**Skin irritation**

: Mild skin irritation

Drill-Thin® Thinner**Eye irritation**

: Irreversible effects on the eye

Repeated dose toxicity

Sulfomethylated Quebracho

: Species: Rat, male
Sex: male
Application Route: oral gavage
Dose: 100, 300, 1000 mg/kg
Exposure time: 32 d
Number of exposures: Daily
NOEL: 1.000 mg/kg
Method: OECD Guideline 422
No adverse effects expected

Species: Rat, female
Sex: female
Application Route: oral gavage
Dose: 100, 300, 1000 mg/kg
Exposure time: 39 - 47 d
Number of exposures: Daily
NOEL: 1.000 mg/kg
Method: OECD Guideline 422
No adverse effects expected

Genotoxicity in vitro

Sulfomethylated Quebracho

: Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Method: OECD Guideline 473
Result: negative

Reproductive toxicity

Sulfomethylated Quebracho

: Species: Rat

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Sex: male
 Application Route: oral gavage
 Dose: 100, 300, 1000 mg/kg
 Exposure time: 32 d
 Number of exposures: Daily
 Method: OECD Guideline 422
 NOAEL Parent: 1.000 mg/kg
 Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Species: Rat
 Sex: female
 Application Route: oral gavage
 Dose: 100, 300, 1000 mg/kg
 Exposure time: 39 - 47 d
 Number of exposures: Daily
 Method: OECD Guideline 422
 NOAEL Parent: 1.000 mg/kg
 NOAEL F1: 1.000 mg/kg
 Fertility and developmental toxicity tests did not reveal any effect on reproduction.

CMR effects

Crystalline Silica : Carcinogenicity: Human carcinogen.

11.2**Information on other hazards****Drill-Thin® Thinner
Further information**

: Product dust may be irritating to eyes, skin and respiratory system.
 No data available.

**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**

Sulfomethylated Quebracho : LL50: > 1.800 mg/l
 Exposure time: 96 h
 Species: Scophthalmus maximus (Flatfish, Flounder)
 Method: OECD Test Guideline 203

Ferrous Sulfate LL50: > 6,25 mg/l
 Exposure time: 96 h
 Species: Cyprinodon variegatus (sheepshead minnow)
 semi-static test Method: OECD Test Guideline 203

Copper sulfate, pentahydrate LL50: > 1,42 mg/l
Exposure time: 96 h
Species: *Cyprinodon variegatus* (sheepshead minnow)
Method: PARCOM Protocol Part B

Toxicity to daphnia and other aquatic invertebrates

Sulfomethylated Quebracho : EL50: 73,2 mg/l
Exposure time: 48 h
Species: *Acartia tonsa* (Marine Copepod)
Method: ISO TC147/SC5/WG2

Ferrous Sulfate LC50: 190 mg/l
Exposure time: 48 h
Species: *Acartia tonsa* (Marine Copepod)
Method: ISO TC147/SC5/WG2

Copper sulfate, pentahydrate LL50: 1,76 mg/l
Exposure time: 48 h
Species: *Acartia tonsa* (Marine Copepod)
static test

Toxicity to algae

Sulfomethylated Quebracho : ErC50: > 100 mg/l
Exposure time: 72 h
Species: *Desmodesmus subspicatus* (green algae)
Method: OECD Test Guideline 201

EbC50: 79 mg/l
Exposure time: 72 h
Species: *Desmodesmus subspicatus* (green algae)
Method: OECD Test Guideline 201

Ferrous Sulfate EL50: 45 mg/l
Exposure time: 72 h
Species: *Skeletonema costatum* (Marine Algae)
Method: ISO 10253

Copper sulfate, pentahydrate ErL50: 11,7 mg/l
Exposure time: 72 h
Species: *Skeletonema costatum* (Marine Algae)
static test

M-Factor

Copper(II) sulfate, pentahydrate (1:1:5)	:	M-Factor (Acute Aquat. Tox.)	10
		M-Factor (Chron. Aquat. Tox.)	1

12.2

Persistence and degradability

Biodegradability : This material is not expected to be readily biodegradable.

12.3

Bioaccumulative potential

Elimination information (persistence and degradability)

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Bioaccumulation : This material is not expected to bioaccumulate.

12.4**Mobility in soil**

Mobility : No data available

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 : Very toxic to aquatic life with long lasting effects.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Very toxic to aquatic life with long lasting effects.

12.8**Additional Information****Ecotoxicology Assessment**

Short-term (acute) aquatic hazard : Very toxic to aquatic life.

Long-term (chronic) aquatic hazard : Very toxic to aquatic life with long lasting effects.

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 : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

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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)

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (FERROUS SULFATE), 9, III, RQ (FERROUS SULFATE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (COPPER SULFATE, PENTAHYDRATE), 9, III, MARINE POLLUTANT, (COPPER SULFATE, PENTAHYDRATE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (COPPER SULFATE, PENTAHYDRATE), 9, III

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (COPPER SULFATE, PENTAHYDRATE), 9, III, (-)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

90, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (COPPER SULFATE, PENTAHYDRATE), 9, III

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (COPPER SULFATE, PENTAHYDRATE), 9, III

Maritime transport in bulk according to IMO instruments

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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)

15.2

Major Accident Hazard Legislation : ZEU_SEVES3 Update:
ENVIRONMENTAL HAZARDS
E1
Quantity 1: 100 t
Quantity 2: 200 t

Notification status

Europe EU REACH : A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations.

Switzerland CH INV : Not in compliance with the inventory
United States of America (USA) : On or in compliance with the active portion of the
TSCA TSCA inventory
Canada DSL : All components of this product are on the Canadian
DSL
Australia AU AICC : All components are listed on the inventory, regulatory
obligations/restrictions apply
New Zealand NZIoC : Not in compliance with the inventory
Japan ENCS : Not in compliance with the inventory
Japan ISHL : Not in compliance with the inventory
Korea KECI : Not in compliance with the inventory
Philippines PICCS : Not in compliance with the inventory
China IECSC : On the inventory, or in compliance with the inventory
Taiwan TW TCSI : Not in compliance with the inventory

SECTION 16: Other information

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Date of last issue : 2023-06-01

Print Date : 2026-09-10

Further information

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

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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.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H350	May cause cancer.
H350i	May cause cancer by inhalation.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.