

**GREENBASE™ HE® 150**

Version 2.11

Revision Date 2016-05-31

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

Product Name : GREENBASE™ HE® 150
Material : 1115418, 1111210, 1108744, 1101584

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Di(Ethylene Glycol) Butyl Ether	112-34-5 203-961-6 603-096-00-8	Chevron Phillips Chemicals International NV 01-2119475104-44-0007
Acrylamide	79-06-1 201-173-7 616-003-00-0	Chevron Phillips Chemicals International NV 01-2119463260-48-0011
2-Acrylamido-2- Methylpropane Sulfonic Acid, Sodium Salt	5165-97-9 225-948-4	Chevron Phillips Chemicals International NV 01-2119495270-39-0016
Propylene oxide	75-56-9 200-879-2 603-055-00-4	Chevron Phillips Chemicals International NV 01-2119480483-35-0052

Relevant Identified Uses : Use in Oil and Gas field drilling and production operations –
Supported Professional

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

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SDS Requests: (800) 852-5530
 Technical Information: (832) 813-4862
 Responsible Party: Product Safety Group
 Email:sds@cpchem.com

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: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316
 EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
 South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

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

SECTION 2: Hazards identification
Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Eye irritation, Category 2

H319:
 Causes serious eye irritation.

Label elements**Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**
 P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ eye protection/ face protection.

Response:
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.

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SECTION 3: Composition/information on ingredients

Synonyms : EXP-312-01
Greenbase Acid Gelling Agent
J568

Molecular formula : Mixture

Mixtures**Hazardous ingredients**

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]
Di(Ethylene Glycol) Butyl Ether	112-34-5 203-961-6 603-096-00-8	Eye Irrit. 2; H319	55 - 70
Calcium Stearate	1592-23-0 216-472-8		0,5 - 1

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

SECTION 4: 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 : 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 : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5: Firefighting measures

Flash point : 100 °C (212 °F)

Autoignition temperature : 228 °C (442 °F)

Unsuitable extinguishing media : High volume water jet.

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

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- Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Fire and explosion protection : Normal measures for preventive fire protection.
- Hazardous decomposition products : No data available.

SECTION 6: Accidental release measures

- Personal precautions : Use personal protective equipment.
- Environmental precautions : Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage**Handling**

- Advice on safe handling : Do not breathe vapors/dust. 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 : Normal measures for preventive fire protection.

Storage

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

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

Zložka	Podstata	Hodnota	Kontrolné parametre	Poznámka
Di(Ethylene Glycol) Butyl Ether	SK OEL	NPEL priemerný	10 ppm, 67,5 mg/m ³	
	SK OEL	NPEL krátkodobý	15 ppm, 101,2 mg/m ³	

SI

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba
Di(Ethylene Glycol) Butyl Ether	SI OEL	MV	10 ppm, 67,5 mg/m ³	Y,

Y - Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in BAT vrednosti.

SE

Beståndsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
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Di(Ethylene Glycol) Butyl Ether	SE AFS	NGV	15 ppm, 100 mg/m3	
	SE AFS	KTV	30 ppm, 200 mg/m3	
Calcium Stearate	SE AFS	NGV	5 mg/m3	43, 44, II.c, Total
	SE AFS	NGV	5 mg/m3	2, 43, 44, Total
	SE AFS	NGV	5 mg/m3	2, 43, 44, Totalt damm

- 2 Med respirabelt damm 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 inhalerbart damm 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 respirabelt damm 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.
- 43 Här innefattas stearater som salter och estrar, bl.a. Aluminiummonostearat [7047-84-9], Aluminiumdistearat [300-92-5], Aluminiumtristearat [637-12-7], Ammoniumstearat [1002-89-7], N-butylstearat [123-95-5], Dietylglykolmonostearat [106-11-6], Etylglykolmonostearat [111-60-4], Glycerolmonostearat [31566-31-1], Kalciumstearat [1592-23-0], Kaliumstearat [593-29-3], Litiumstearat [4485-12-5], Magnesiumstearat [557-04-0], Natriumstearat [822-16-2], Zinkstearat [557-05-1]
- 44 Gränsvärdet gäller inte sådana metallstearater som innehåller toxiska metaller, t.ex. bly. I detta fall ska gränsvärdet för bly användas
- II.c Se sidan 57 anmärkning II: 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 Arbetslivsinstitutet, 1979. Filterdiametern är normalt 37 mm, men kan även vara 25 mm.

RS

Компоненты	Основа	Величина	Параметры контроля	Заметка
Di(Ethylene Glycol) Butyl Ether	RS OEL	GVI	10 ppm, 67,5 mg/m3	EU**,
	RS OEL	KGVI	15 ppm, 101,2 mg/m3	EU**,

EU** Substance mentioned in indicative exposure limit values in Directive 2006/15 / EC (second list)

RO

Componente	Bază	Valoare	Parametri de control	Notă
Di(Ethylene Glycol) Butyl Ether	RO OEL	TWA	150 mg/m3	
	RO OEL	STEL	250 mg/m3	

PT

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Di(Ethylene Glycol) Butyl Ether	PT DL 305/2007	oito horas	10 ppm, 67,5 mg/m3	
	PT DL 305/2007	curta duração	15 ppm, 101,2 mg/m3	
Calcium Stearate	PT OEL	VLE-MP	10 mg/m3	(J), A4, iritação do TRS,

- (J) Não inclui estearatos de metais tóxicos
 A4 Agente não classificável como carcinogénico no Homem.
 iritação do trato respiratório superior
 TRS

PL

Składniki	Podstawa	Wartość	Parametry dotyczące kontroli	Uwaga
Di(Ethylene Glycol) Butyl Ether	PL NDS	NDS	67 mg/m3	
	PL NDS	NDSch	100 mg/m3	

NO

Komponenter	Grunnlag	Verdi	Kontrollparametere	Nota
Di(Ethylene Glycol) Butyl Ether	FOR-2011-12-06-1358	TWA	10 ppm, 68 mg/m3	

NL

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Di(Ethylene Glycol) Butyl Ether	NL WG	TGG-8 uur	50 mg/m3	H,
	NL WG	TGG-15 min	100 mg/m3	H,

H Huidopname

MT

Ingredients	Basis	Value	Control parameters	Note
Di(Ethylene Glycol) Butyl Ether	MT OEL	TWA	10 ppm, 67,5 mg/m3	
	MT OEL	STEL	15 ppm, 101,2 mg/m3	

MK

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Di(Ethylene Glycol) Butyl Ether	MK OEL	MV	10 ppm, 67,5 mg/m3	Y, *

* Limit value amended in Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC (OJ L no. 38 of 9 second 2006, pp. 36)

Y Substances without teratogenic effects when respecting limit values and bat values.

SDS Number:100000014527

5/18

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LV

Sastāvdaļas	Bāze	Vērtība	Pārvaldības parametri	Piezīme
Di(Ethylene Glycol) Butyl Ether	LV OEL	AER 8 st	10 ppm, 67,5 mg/m ³	
	LV OEL	AER īslaicīgā	15 ppm, 101,2 mg/m ³	

LU

Composants	Base	Valeur	Paramètres de contrôle	Note
Di(Ethylene Glycol) Butyl Ether	LU OEL	TWA	10 ppm, 67,5 mg/m ³	
	LU OEL	STEL	15 ppm, 101,2 mg/m ³	

LT

Komponentai	Pagrindas, bazė	Vertė	Kontrolės parametrai	Pastaba
Di(Ethylene Glycol) Butyl Ether	LT OEL	IPRD	15 ppm, 100 mg/m ³	
	LT OEL	TPRD	30 ppm, 200 mg/m ³	
Calcium Stearate	LT OEL	IPRD	5 mg/m ³	

IT

Componenti	Base	Valore	Parametri di controllo	Nota
Di(Ethylene Glycol) Butyl Ether	IT OEL	TWA	10 ppm, 67,5 mg/m ³	
	IT OEL	STEL	15 ppm, 101,2 mg/m ³	

IS

Komponenter	Grunnlag	Verdi	Kontrollparametere	Nota
Di(Ethylene Glycol) Butyl Ether	IS OEL	TWA	10 ppm, 67,5 mg/m ³	
	IS OEL	STEL	15 ppm, 101,2 mg/m ³	

IE

Ingredients	Basis	Value	Control parameters	Note
Di(Ethylene Glycol) Butyl Ether	IE OEL	OELV - 8 hrs (TWA)	10 ppm, 67,5 mg/m ³	IOELV,
	IE OEL	OELV - 15 min (STEL)	15 ppm, 101,2 mg/m ³	IOELV,
Calcium Stearate	IE OEL	OELV - 8 hrs (TWA)	10 mg/m ³	

IOELV Indicative Occupational Exposure Limit Value

HU

Komponensek	Bázis	Érték	Ellenőrzési paraméterek	Megjegyzés
Di(Ethylene Glycol) Butyl Ether	HU OEL	AK-érték	67,5 mg/m ³	EU2,
	HU OEL	CK-érték	101,2 mg/m ³	EU2,

EU2 96/94/EK irányelvben közölt érték

HR

Sastojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka
Di(Ethylene Glycol) Butyl Ether	HR OEL	GVI	10 ppm, 67,5 mg/m ³	EU**, Xi,
	HR OEL	STEL	15 ppm, 101,2 mg/m ³	EU**, Xi,

EU** Naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2006/15/ EC (druga lista)

Xi Nadražujuće

GR

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Di(Ethylene Glycol) Butyl Ether	GR OEL	TWA	10 ppm, 67,5 mg/m ³	
	GR OEL	STEL	15 ppm, 101,2 mg/m ³	

GB

Ingredients	Basis	Value	Control parameters	Note
Di(Ethylene Glycol) Butyl Ether	GB EH40	TWA	10 ppm, 67,5 mg/m ³	
	GB EH40	STEL	15 ppm, 101,2 mg/m ³	

FR

Composants	Base	Valeur	Paramètres de contrôle	Note
Di(Ethylene Glycol) Butyl Ether	FR VLE	VME	10 ppm, 67,5 mg/m ³	bleu,
	FR VLE	VLCT (VLE)	15 ppm, 101,2 mg/m ³	bleu,

bleu Valeurs limites réglementaires indicatives

FI

Aineosat	Peruste	Arvo	Valvontaa koskevat muuttujat	Huomautus
Di(Ethylene Glycol) Butyl Ether	FI OEL	HTP-arvot 8h	10 ppm, 68 mg/m ³	

ES

Componentes	Base	Valor	Parámetros de control	Nota
Di(Ethylene Glycol) Butyl Ether	ES VLA	VLA-ED	10 ppm, 67,5 mg/m ³	r, VLI,
	ES VLA	VLA-EC	15 ppm, 101,2 mg/m ³	r, VLI,
Calcium Stearate	ES VLA	VLA-ED	10 mg/m ³	

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- r Esta sustancia tiene establecidas restricciones a la fabricación, la comercialización o el uso en los términos especificados en el 'Reglamento CE 1907/2006 sobre Registro, Evaluación, Autorización y Restricción de sustancias y preparados químicos' (REACH) de 18 de diciembre de 2006 (DOUE L 369 de 30 de diciembre de 2006). Las restricciones de una sustancia pueden aplicarse a todos los usos o sólo a usos concretos. El anexo XVII del Reglamento REACH contiene la lista de todas las sustancias restringidas y especifica los usos que se han restringido.
- VLI Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país.

EE

Komponendid, osad	Alused	Väärtus	Kontrolliparameetrid	Märkused
Di(Ethylene Glycol) Butyl Ether	EE OEL	Piirnorm	10 ppm, 67,5 mg/m3	

DK

Komponenter	Basis	Værdi	Kontrolparametre	Note
Di(Ethylene Glycol) Butyl Ether	DK OEL	GV	10 ppm, 68 mg/m3	E,

E At stoffet har en EF-grænseværdi

DE

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Di(Ethylene Glycol) Butyl Ether	DE TRGS 900	AGW	10 ppm, 67 mg/m3	DFG, EU, 11, Y, Dampf und Aerosole

- 11 Summe aus Dampf und Aerosolen.
 DFG Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission)
 EU Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich.)
 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
Di(Ethylene Glycol) Butyl Ether	CZ OEL	PEL	70 mg/m3	I,
	CZ OEL	NPK-P	100 mg/m3	I,

I dráždí sliznice (oči, dýchací cesty) resp. kůže

CY

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Di(Ethylene Glycol) Butyl Ether	CY OEL	TWA	10 ppm, 67,5 mg/m3	
	CY OEL	STEL	15 ppm, 101,2 mg/m3	

CH

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Di(Ethylene Glycol) Butyl Ether	CH SUVA	MAK-Wert	10 ppm, 67 mg/m3	SSc,
	CH SUVA	KZGW	15 ppm, 101 mg/m3	SSc,

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

BG

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Di(Ethylene Glycol) Butyl Ether	BG OEL	TWA	10 ppm, 67,5 mg/m3	-,
	BG OEL	STEL	15 ppm, 101,2 mg/m3	-,

- Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност. Граничните стойности на тези химични агенти във въздуха на работната среда, определени с наредбата, са съобразени със съответните стойности, приети за Европейската общност, като могат да бъдат равни или по-ниски от тях.

BE

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Di(Ethylene Glycol) Butyl Ether	BE OEL	TGG 8 hr	10 ppm, 67,5 mg/m3	
	BE OEL	TGG 15 min	15 ppm, 101,2 mg/m3	
Calcium Stearate	BE OEL	TGG 8 hr	10 mg/m3	

AT

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Di(Ethylene Glycol) Butyl Ether	AT OEL	TMW	10 ppm, 67,5 mg/m3	
	AT OEL	KZW	15 ppm, 101,2 mg/m3	

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

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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 | : | Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, 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 in relation to its type, to the concentration and amount of dangerous substances, and to the specific 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**Information on basic physical and chemical properties****Appearance**

- | | | |
|----------------|---|----------------|
| Physical state | : | Liquid |
| Color | : | White |
| Odor | : | Mild, pleasant |

Safety data

- | | | |
|-----------------------|---|-------------------|
| Flash point | : | 100 °C (212 °F) |
| Lower explosion limit | : | No data available |
| Upper explosion limit | : | No data available |
| Oxidizing properties | : | no |

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Autoignition temperature	: 228 °C (442 °F)
Molecular formula	: Mixture
Molecular weight	: No data available
pH	: 7
Freezing point	: No data available
Pour point	No data available
Boiling point/boiling range	: 230 °C (446 °F)
Vapor pressure	: 15,00 PSI at 20 °C (68 °F)
Relative density	: 1,06
Density	: 1.059,3 g/l
Water solubility	: Soluble
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: 5,6 (Air = 1.0)
Evaporation rate	: No data available

SECTION 10: Stability and reactivity

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

Conditions to avoid	: No data available.
Materials to avoid	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous decomposition products	: No data available
Other data	: No decomposition if stored and applied as directed.

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SECTION 11: Toxicological information**Acute oral toxicity**

Di(Ethylene Glycol) Butyl Ether : LD50: 2.410 mg/kg
Species: Mouse
Sex: male

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Acute dermal toxicity : LD50: 3.949 mg/kg
Method: Acute toxicity estimate

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Skin irritation : May cause skin irritation in susceptible persons.

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Eye irritation : Eye irritation.

Sensitization

Di(Ethylene Glycol) Butyl Ether : Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Di(Ethylene Glycol) Butyl Ether : Species: Rat, Male and female
Sex: Male and female
Application Route: Oral
NOEL: 250 mg/kg
Lowest observable effect level: 1.000 mg/kg
Method: OCED Guideline 408
Target Organs: Blood, Liver, Kidney

Species: Rat, Male and female
Sex: Male and female
Application Route: inhalation (vapor)
NOEL: 94 mg/m3
Method: OECD Guideline 413
Target Organs: Lungs

Species: Rat, Male and female
Sex: Male and female
Application Route: Dermal
NOEL: 2.000 mg/kg
Target Organs: Skin

Reproductive toxicity

Di(Ethylene Glycol) Butyl Ether : Species: Mouse
Sex: male and female
Application Route: Oral
Dose: 0, 720, 1340, 2050mg/kg bw
Number of exposures: continuous
Test period: 14 weeks
Method: OECD Test Guideline 416
NOAEL Parent: 720 mg/kg
NOAEL F1: 720 mg/kg

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NOAEL F2: 720 mg/kg
Information given is based on data obtained from similar substances.

Developmental Toxicity

Di(Ethylene Glycol) Butyl Ether

: Species: Rat
Application Route: Oral diet
Dose: 25, 115, 633 mg/kg/d
Number of exposures: GD 0 -20 d
Method: OECD Guideline 414
NOAEL Teratogenicity: 633 mg/kg
NOAEL Maternal: 633 mg/kg
No adverse effects expected

Species: Rabbit
Application Route: Dermal
Dose: 25, 115, 633 mg/kg/d
Exposure time: 4 h/d
Number of exposures: GD 8 -19 d
Method: OECD Guideline 414
NOAEL Teratogenicity: 1.000 mg/kg
NOAEL Maternal: 1.000 mg/kg
No adverse effects expected

GREENBASE™ HE® 150**Aspiration toxicity**

: No aspiration toxicity classification.

CMR effects

Di(Ethylene Glycol) Butyl Ether

: Carcinogenicity: Not available
Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects., In vivo tests did not show mutagenic effects
Teratogenicity: Animal testing did not show any effects on fetal development.
Reproductive toxicity: Animal testing did not show any effects on fertility.

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: No data available.

SECTION 12: Ecological information**Toxicity to fish**

Di(Ethylene Glycol) Butyl Ether

: LC50: > 1.000 mg/l
Exposure time: 96 h
Species: Scophthalmus maximus (Flatfish, Flounder)
semi-static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Di(Ethylene Glycol) Butyl Ether

: EC50: > 1.000 mg/l
Exposure time: 48 h
Species: Acartia tonsa (Marine Copepod)

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static test Method: ISO TC147/SC5/WG2

Toxicity to algae

Di(Ethylene Glycol) Butyl Ether : EC50: > 1.000 mg/l
 Exposure time: 72 h
 Species: Skeletonema costatum (marine diatom)
 Growth inhibition Method: ISO 10253

Elimination information (persistence and degradability)

Biodegradability : Expected to be biodegradable

Ecotoxicology 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.

Additional ecological information : No data available

SECTION 13: Disposal considerations

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

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.

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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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information**National legislation**

Major Accident Hazard : 96/82/EC Update: 2003
Legislation Directive 96/82/EC does not apply

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

Other Registrations

Regulation	Registration number
Danish PR number:	1629565

Notification status

Europe REACH	:	On the inventory, or in compliance with the inventory
United States of America TSCA	:	On the inventory, or in compliance with the inventory
Canada DSL	:	On the inventory, or in compliance with the inventory
Australia 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

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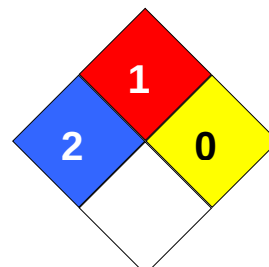
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Korea KECI	:	Not in compliance with the inventory
Philippines PICCS	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
 Fire Hazard: 1
 Reactivity Hazard: 0

**Further information**

Legacy SDS Number : CPC00471

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%
AICS	Australia, Inventory of Chemical Substances	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

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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%		

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

H319 Causes serious eye irritation.

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Annex**1. Short title of Exposure Scenario: Use in Oil and Gas field drilling and production operations – Professional**

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities
Environmental release category	: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Further information	: Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.

2.1 Contributing scenario controlling environmental exposure for:ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Maximum allowable site tonnage : 575
(MSafe) based on release
following total wastewater
treatment removal (tonnes/day):
(Msafe)

Frequency and duration of use

Continuous exposure : 16 days/year, Batch process

Environment factors not influenced by risk management

Flow rate : 18.000 m3/d
Dilution Factor (River) : 10
Dilution Factor (Coastal Areas) : 100

Other given operational conditions affecting environmental exposure

Emission or Release Factor: Air : 0 %
Emission or Release Factor: Water : 100 %

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Emission or Release Factor: Soil : 0 %
 Local release rate: Water : 31 tonnes/day
 Local release rate: Soil : 0 kg/day

Technical conditions and measures / Organizational measures

Air : No specific measures required
 Remarks : Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
 Remarks : Not applicable

Conditions and measures related to external treatment of waste for disposal

Waste treatment : External treatment and disposal of waste should comply with applicable local and/or national regulations.
 Disposal methods : Dispose of as special waste in compliance with local and national regulations.

Conditions and measures related to external recovery of waste

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Physical Form (at time of use) : Liquid substance
 Remarks : Liquid, vapour pressure < 0.5 kPa at STP

Frequency and duration of use

Exposure duration : 12 h

Other operational conditions affecting workers exposure

Remarks : Assumes a good basic standard of occupational hygiene is implemented., Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures

None

Organizational measures to prevent /limit releases, dispersion and exposure

No specific measures identified.

2.2 Contributing scenario controlling worker exposure for: CS114: Bulk transfers from tote tanks and supply vessels

Technical conditions and measures

Transfer via enclosed lines., Clear transfer lines prior to de-coupling.

Organizational measures to prevent /limit releases, dispersion and exposure

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Clear spills immediately.

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection., Wear suitable gloves tested to EN374.

3. Exposure estimation and reference to its source**Environment**

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	Risk characterization ratio
ERC4	CHARM Model		Air			
			Freshwater			
			Freshwater sediment			
			Sea water		0,00539 mg/L	0,0539
			Marine sediment		0,000511 µg/kg dry weight (d.w.)	0,000013
			Sewage treatment plant			

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Remarks:

- Air
- No data available
- Freshwater
- Not applicable
- Freshwater sediment
- Not applicable
- Sewage treatment plant
- Not applicable

Workers/Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	Risk characterization ratio
CS114	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	3,9 ppm	0,39
			Worker – dermal, long-term – systemic	1,78 mg/kg/d	0,09

CS114: Bulk transfers from tote tanks and supply vessels

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Available hazard data do not enable the derivation of a DNEL for eye irritant effects. Risk management measures described will protect against acute exposure. Since exposures have been assessed on a task basis, exposure assessments will cover both long and short term exposures.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.