Soltex® E Additive

Version 1.11 Revision Date 2023-03-01

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 : Soltex® E Additive
Material : 1110476

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Asphalt, Sulfonated, Sodium Salt	68201-32-1 269-212-0	Chevron Phillips Chemicals International NV 01-2119510713-49-0000
Asphalt, Sulfonated, Sodium Salt	68201-32-1 269-212-0	Chevron Phillips Chemical Company LP 01-2119510713-49-0002

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

Not a hazardous substance or mixture.

2.2

Labeling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

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	:	DRILLING MUD ADDITIVE Shale Inhibitor
Molecular formula	:	UVCB

Contains no hazardous ingredients according to GHS. :

Remarks : Contains no hazardous ingredients according to GHS.

SECTION 4: First aid measures

4.1

Description of first-aid measures

General advice	:	No hazards which require special first aid measures.
If inhaled	:	Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
In case of eye contact	:	Flush eyes with water as a precaution. 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 give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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 : No data available

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. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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.

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. Ensure adequate ventilation.

6.2
Environmental precautions

Environmental precautions : 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. 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. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8: Exposure controls/personal protection

8.1

Control parameters

DNEL : End Use: Workers
Routes of exposure: Skin contact
Potential health effects: Chronic effects, Systemic effects
Value: 14,3 mg/kg

DNEL : End Use: Workers
Routes of exposure: Inhalation
Potential health effects: Chronic effects, Systemic effects
Value: 25,2 mg/m3

PNEC : Marine water
Value: 0,12 mg/l

PNEC : Marine sediment
Value: 0,097 mg/kg

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. Safety glasses.
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.

For additional details, see the Exposure Scenario in the Annex portion

SECTION 9: Physical and chemical properties

9.1

Information on basic physical and chemical properties

Appearance

Form	:	Powder
Physical state	:	solid
Color	:	Dark Brown, Black
Odor	:	no odor
Odor Threshold	:	Not applicable

Safety data

Flash point	:	Not applicable

Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Autoignition temperature	:	No data available
Thermal decomposition	:	No data available
Molecular formula	:	UVCB
pH	:	7 - 10
Boiling point/boiling range	:	Not applicable
Vapor pressure	:	Not applicable
Relative density	:	Not applicable
Density	:	1,54 g/cm3
Water solubility	:	partly soluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, kinematic	:	No data available
Relative vapor density	:	Not applicable

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 : 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.

Thermal decomposition : No data available

10.6

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

SECTION 11: Toxicological information

11.1

Information on toxicological effects

Soltex® E Additive
Acute oral toxicity : LD50: > 5.000 mg/kg
Species: Rat
Sex: male and female

Soltex® E Additive
Acute inhalation toxicity : LC50: > 5,3 mg/l
Exposure time: 4 h
Species: Rat
Sex: male and female
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Rats exposed to a 5.3 mg/L dust aerosol for 4-hr resulted in effects generally expected with high concentrations of dust aerosols made of relatively dense particles. Higher lung weight and atelectasis persisted after the 14-day recovery period. There were no reports of lethality or any significant clinical observations. There was however an acute inflammatory response with evidence of recovery after 14-days. The presence of particulate matter with indication of partial clearance from the lung after the 14-day recovery period was noted. These effects would not be expected during normal operating conditions when using this substance.

Soltex® E Additive
Acute dermal toxicity : No data available

Soltex® E Additive
Skin irritation : No skin irritation

Soltex® E Additive
Eye irritation : No eye irritation

Soltex® E Additive
Sensitization : Did not cause sensitization on laboratory animals.

Soltex® E Additive
Repeated dose toxicity : Species: Rat, male and female
Sex: male and female
Application Route: oral gavage
Dose: 0, 250, 500, 1000 mg/kg

Exposure time: 43 - 54 D
Number of exposures: daily
NOEL: 1.000 mg/kg
Method: OECD Guideline 422

Soltex® E Additive
Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: In vitro tests did not show mutagenic effects

Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: In vitro tests did not show mutagenic effects

Test Type: Mouse lymphoma assay
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Remarks: In vitro tests did not show mutagenic effects

Soltex® E Additive
Reproductive toxicity : Species: Rat
Sex: male and female
Application Route: oral gavage
Dose: 0, 250, 500, 1000 mg/kg
Exposure time: 43-54 D
Number of exposures: daily
Method: OECD Guideline 422
NOAEL Parent: 1.000 mg/kg
NOAEL F1: 1.000 mg/kg

Soltex® E Additive
Developmental Toxicity : Species: Rat
Application Route: oral gavage
Dose: 0, 250, 500, 1000 mg/kg
Number of exposures: daily
Test period: 54 D
NOAEL Teratogenicity: 1.000 mg/kg
NOAEL Maternal: 1.000 mg/kg

Toxicology Assessment

Soltex® E Additive
CMR effects : Carcinogenicity:
Not available
Mutagenicity:
Tests on bacterial or mammalian cell cultures 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.

11.2
Information on other hazards

Soltex® E Additive

Further information	:	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	:	LC50: > 240 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	:	LC50: 380 mg/l Exposure time: 48 h Species: Acartia tonsa (Marine Copepod) static test Method: ISO TC147/SC5/WG2
Toxicity to algae	:	EbC50: 240 mg/l Exposure time: 72 h Species: Skeletonema costatum (Marine Algae) static test Method: ISO 10253 ErC50: 390 mg/l Exposure time: 72 h Species: Skeletonema costatum (Marine Algae) static test Method: ISO 10253

12.2
Persistence and degradability

Biodegradability	:	3 % Testing period: 28 d Method: Closed Bottle test According to the results of tests of biodegradability this product is not readily biodegradable.

12.3
Bioaccumulative potential
Elimination information (persistence and degradability)

Bioaccumulation : The product may be accumulated in organisms.

12.4
Mobility in soil

Mobility : immobile
Adsorption to solid soil phase is possible.

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.

For additional details, see the Exposure Scenario in the Annex portion

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) 2015/830 of 28 May 2015 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

Chemical Safety Assessment

Components : Asphalt, sulfonated, sodium salt 269-212-0

Major Accident Hazard Legislation : ZEU_SEVES3 Update: Not applicable

Other Registrations

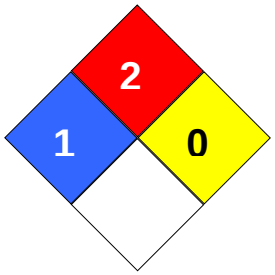
Regulation	Registration number
Danish PR number:	2318865

Notification status

Europe REACH	:	This product is in full compliance according to REACH regulation 1907/2006/EC.
Switzerland CH INV	:	Not 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
Australia AIIC	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	Not in compliance with the inventory
Japan ENCS	:	Not 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	:	Not in compliance with the inventory
Taiwan TCSI	:	Not in compliance with the inventory
China IECSC	:	Not in compliance with the inventory

SECTION 16: Other information

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



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 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

Annex: Exposure Scenarios

Table of Contents

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

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).
Substance	:	Asphalt, sulfonated, sodium salt EC-No.: 269-212-0

Environment		
CS 1	**Use in Oil and Gas field drilling and production operations - Industrial**	ERC4
Worker		
CS 2	**Chemical production where opportunity for exposure arises**	PROC4

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	:	Solid, low dustiness
Amount used (or contained in articles), frequency and duration of use/exposure		
Release type	:	Continuous release
Technical and organisational conditions and measures		
Not applicable		
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	Drilling muds are recycled and reused

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

Product (article) characteristics		
Physical form of product	:	Solid, low dustiness
Amount used (or contained in articles), frequency and duration of use/exposure		

Use frequency	:	3 hours/day

Technical and organisational conditions and measures

Provide adequate ventilation.
Bags of dry powder should be emptied into hopper and pulled down by Venturi effect to minimize dust in the air.
Hoppers should be regularly washed down with water to rinse any residual product.
Empty bags into hopper when facing downwind.

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

Respirator with a dust filter
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Other conditions affecting workers exposure

Indoor or outdoor use	:	Covers indoor and outdoor use.
Temperature	:	Assumes use at not more than 20°C above ambient temperature.

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)

Protection Target	Exposure estimate	RCR
Sea water	0,0005 mg/l (EGEST)	0,004
Sea sediment	31,4 mg/kg wet weight (EGEST)	0,598

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

Exposure route	Health effect	Exposure indicator	Exposure estimate	RCR
dermal	systemic	Long-term	6,86 mg/kg/d (ECETOC TRA worker v3)	0,480
inhalative	systemic	Long-term	0,420 mg/m³ (ECETOC TRA worker v3)	0,017
combined routes	systemic			0,497

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

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterization ratios are expected to be less than 1.
When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk

characterisation ratios are expected to be less than 1
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Available hazard data do not enable the derivation of a DNEL for carcinogenic and dermal irritant effects.