Desco® Deflocculant

Version 3.3 Revision Date 2019-09-03

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

Product information

Product Name : Desco® Deflocculant
Material : 1016805

Use : Drilling Mud Additive

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

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
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
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

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
This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

Classification

: Combustible dust
Eye irritation, Category 2A
Skin sensitization, Category 1
Carcinogenicity, Category 1A

Labeling

Symbol(s) :

Signal Word : Danger

Hazard Statements : May form combustible dust concentrations in air.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H350: May cause cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC	Group 1: Carcinogenic to humans	
	Crystalline Silica	14808-60-7
NTP	Known to be human carcinogen	
	Crystalline Silica	14808-60-7
ACGIH	Suspected human carcinogen	
	Crystalline Silica	14808-60-7

SECTION 3: Composition/information on ingredients

Synonyms : Drilling Mud Deflocculant

Molecular formula : Mixture

Component	CAS-No.	Weight %
Methyl ester of sulfonated tannin	Proprietary	60 - 80
Ferrous Sulfate	17375-41-6	5 - 9
Chromium Acetate	1066-30-4	3 - 10
Crystalline Silica	14808-60-7	0.1 - 1

SECTION 4: First aid measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.

If inhaled : Call a physician or poison control center immediately. If unconscious, place in recovery position and seek medical advice.

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. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point : Not applicable

Autoignition temperature : No data available

Unsuitable extinguishing media : High volume water jet.

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

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.

Hazardous decomposition : No data available.

products

SECTION 6: Accidental release measures

Personal precautions	:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.
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.
Methods for cleaning up	:	Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Handling

Advice on safe handling	:	Avoid formation of respirable particles. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Advice on protection against fire and explosion	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

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.
Use	:	Drilling Mud Additive

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

US

Components	Basis	Value	Control parameters	Note
Ferrous Sulfate	ACGIH	TWA	1 mg/m3	URT irr, skin irr, varies,
	OSHA Z-1-A	TWA	1 mg/m3	
Chromium Acetate	OSHA Z-1	TWA	0.5 mg/m3	
	ACGIH	TWA	0.5 mg/m3	URT irr, skin irr, (), A4, varies,
	OSHA Z-1-A	TWA	0.5 mg/m3	
	CAL PEL	PEL	0.5 mg/m3	
Crystalline Silica	OSHA Z-3	TWA	250mppcf / %SiO2+5	(f), a, b, respirable
	OSHA Z-3	TWA	10mg/m3 / %SiO2+2	(f), e, respirable
	OSHA Z-3	TWA	0.1 mg/m3	Respirable fraction
	OSHA Z-1-A	TWA	0.1 mg/m3	respirable dust fraction
	ACGIH	TWA	0.025 mg/m3	lung cancer, pulm

				fibrosis, A2, Respirable fraction
	OSHA Z-1	TWA	0.05 mg/m3	Respirable fraction
	OSHA Z-1	TWA	0.05 mg/m3	(7), (respirable dust)

() Adopted values or notations enclosed are those for which changes are proposed in the NIC
(7) See Table Z-3 for the exposure limit for any operations or sectors where the exposure limit in § 1910.1053 is stayed or is otherwise not in effect.
(f) This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or is otherwise not in effect.
a Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.
A2 Suspected human carcinogen
A4 Not classifiable as a human carcinogen
b The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.
e Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics: Aerodynamic diameter (unit density sphere): 2; Percent passing selector: 90 Aerodynamic diameter (unit density sphere): 2,5; Percent passing selector: 75 Aerodynamic diameter (unit density sphere): 3,5; Percent passing selector: 50 Aerodynamic diameter (unit density sphere): 5,0; Percent passing selector: 25 Aerodynamic diameter (unit density sphere): 10; Percent passing selector: 0 The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m3 in the table for coal dust is 4.5 mg/m3.
lung cancer Lung cancer
pulm fibrosis Pulmonary fibrosis
skin irr Skin irritation
URT irr Upper Respiratory Tract irritation
varies varies

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
Chromium Acetate	1066-30-4	Immediately Dangerous to Life or Health Concentration Value 25 mg/m³	1995-03-01
Crystalline Silica	14808-60-7	Immediately Dangerous to Life or Health Concentration Value 50 mg/m³	1995-03-01

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 : 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:. Dust safety masks are recommended when the dust concentration is excessive. Air-Purifying Respirator for Dusts and Mists / P100. 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. 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:. Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.
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

Form	:	Powder
Physical state	:	Solid
Color	:	Reddish brown
Odor	:	Mild
Odor Threshold	:	No data available

Safety data

Flash point	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Oxidizing properties	:	No
Autoignition temperature	:	No data available
Thermal decomposition	:	No data available
Molecular formula	:	Mixture
Molecular weight	:	Not applicable
pH	:	Not applicable
Pour point	:	No data available
Boiling point/boiling range	:	Not applicable
Vapor pressure	:	Not applicable
Relative density	:	Not applicable
Density	:	1.59 g/cm3

Water solubility	:	Partly soluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, kinematic	:	Not applicable
Relative vapor density	:	Not applicable

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.

Possibility of hazardous reactions

Hazardous reactions : Hazardous reactions: Hazardous polymerization does not occur.

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

Conditions to avoid : No data available.

Thermal decomposition : No data available

Hazardous decomposition products : No data available

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

SECTION 11: Toxicological information

Desco® Deflocculant
Acute oral toxicity : Acute toxicity estimate: 3,310 mg/kg
Method: Calculation method

Desco® Deflocculant
Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Desco® Deflocculant
Skin irritation : May cause skin irritation and/or dermatitis.

Desco® Deflocculant
Eye irritation : Irritating to eyes.

Desco® Deflocculant
Sensitization : Causes sensitization.

Repeated dose toxicity

Methyl ester of sulfonated tannin	:	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
Chromium Acetate		Species: Mouse Application Route: oral gavage Dose: 5 ppm Exposure time: lifetime Number of exposures: in drinking water

Genotoxicity in vitro

Methyl ester of sulfonated tannin	:	Test Type: Chromosome aberration test in vitro Metabolic activation: with and without metabolic activation Method: OECD Guideline 473 Result: negative
Chromium Acetate		Test Type: Sister Chromatid Exchange Assay Result: negative Test Type: Chromosome aberration test in vitro Result: positive

Carcinogenicity

Chromium Acetate	:	Species: Rat Dose: 5 mg/l Exposure time: lifetime Number of exposures: in drinking water Remarks: no increase incidence of tumors

Reproductive toxicity

Methyl ester of sulfonated tannin	:	Species: Rat 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: Positive evidence from human epidemiological studies (inhalation)

Desco® Deflocculant
Further information : No data available.

SECTION 12: Ecological information

Toxicity to fish

Methyl ester of sulfonated tannin : 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

Chromium Acetate LC50: > 100 mg/l
Exposure time: 96 h
Species: Danio rerio (Zebra Fish)
semi-static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Methyl ester of sulfonated tannin : 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

Chromium Acetate	EC50: > 100 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) semi-static test Method: OECD Test Guideline 202

Toxicity to algae

Methyl ester of sulfonated tannin	:	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

Biodegradability	:	Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.

Elimination information (persistence and degradability)

Additional ecological information	:	Harmful to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

Methyl ester of sulfonated tannin	:	Harmful to aquatic life.
Chromium Acetate	:	Harmful to aquatic life.

Long-term (chronic) aquatic hazard

Methyl ester of sulfonated tannin	:	Harmful to aquatic life with long lasting effects.

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	:	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.

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

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

SARA 311/312 Hazards	:	Combustible dust Serious eye damage or eye irritation Respiratory or skin sensitization Carcinogenicity
CERCLA Reportable Quantity	:	Calculated RQ exceeds reasonably attainable upper limit. Chromium Acetate
SARA 302 Reportable Quantity	:	This material does not contain any components with a SARA 302 RQ.
SARA 302 Threshold Planning Quantity	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 304 Reportable Quantity	:	This material does not contain any components with a section 304 EHS RQ.
SARA 313 Components	:	The following components are subject to reporting levels established by SARA Title III, Section 313:
	:	Chromium Acetate - 1066-30-4

Clean Air Act

Ozone-Depletion Potential	:	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):
: Chromium Acetate - 1066-30-4

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

US State Regulations

Pennsylvania Right To Know
: Ferrous Sulfate - 17375-41-6
Chromium Acetate - 1066-30-4

Pennsylvania Right To Know
: Sulfomethylated Quebracho - 68201-64-9
Sodium Lignite - 68131-04-4
Ferrous Sulfate - 17375-41-6
Chromium Acetate - 1066-30-4

New Jersey Right To Know
: Ferrous Sulfate - 17375-41-6
Chromium Acetate - 1066-30-4
Crystalline Silica - 14808-60-7

New Jersey Right To Know
: Sulfomethylated Quebracho - 68201-64-9
Sodium Lignite - 68131-04-4
Ferrous Sulfate - 17375-41-6
Chromium Acetate - 1066-30-4
Crystalline Silica - 14808-60-7

California Prop. 65 Components
: WARNING! This product contains a chemical known in the State of California to cause cancer.

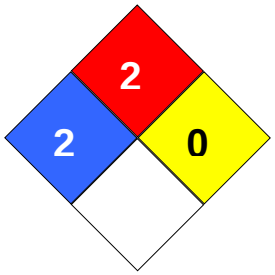
WARNING! This product contains a chemical known in the State of California to cause cancer.
Crystalline Silica 14808-60-7

Notification status

Europe REACH	:	Not in compliance with the inventory
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Australia AICS	:	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.
Philippines PICCS	:	Not in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	Not in compliance with the inventory

SECTION 16: Other information

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



Further information

Legacy SDS Number : 59390

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
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	TSCA	Toxic Substance Control Act

	New Chemical Substances		
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%		