

Version 1.2 Revision Date 2016-03-02

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

**Product information** 

Product Name : SCENTINEL® S-40 Gas Odorant Material : 1030664, 1028937, 1105019

Use : Odorant

Company : Chevron Phillips Chemical Company LP

Specialty Chemicals 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: +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

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.

## **Emergency Overview**

Danger

Form: Liquid Physical state: Liquid Color: Clear Odor: Repulsive OSHA Hazards : Flammable Liquid, Skin sensitizer, Irritant

Classification

: Flammable liquids , Category 2 Eye irritation , Category 2A

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Skin sensitization, Category 1

#### Labeling

Symbol(s)





Signal Word Danger

**Hazard Statements** : H225: Highly flammable liquid and vapor.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

**Precautionary Statements** : Prevention:

> P210 Keep away from heat/sparks/open flames/hot surfaces.

No smoking.

Keep container tightly closed. P233

P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting/

equipment.

P242 Use only non-sparking tools.

P243

Take precautionary measures against static discharge. P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.

P272 Contaminated work clothing must not be allowed out of

the workplace.

Wear protective gloves/ eye protection/ face protection. P280

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with

water/shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

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.

P370 + P378 In case of fire: Use dry sand, dry chemical or

alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Carcinogenicity:

**IARC** No ingredient of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

**NTP** No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

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ACGIH No ingredient o

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen

by ACGIH.

## **SECTION 3: Composition/information on ingredients**

Synonyms : Mercaptan Mixture

Gas Odorant

Molecular formula : Mixture

Component	CAS-No.	Weight %
t-Butyl Mercaptan	75-66-1	58 - 62
Methyl Ethyl Sulfide	624-89-5	38 - 42

#### **SECTION 4: First aid measures**

General advice : Move out of dangerous area. Show this material safety data

sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

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.

Take victim immediately to hospital.

## **SECTION 5: Firefighting measures**

Flash point : < -15 °C (< 5 °F)

estimated

Autoignition temperature : No data available

Suitable extinguishing

media

: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.

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 : Wear self-contained breathing apparatus for firefighting if

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equipment for fire-fighters

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. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection

: Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

Hazardous decomposition

products

: Carbon oxides. Sulfur oxides.

## **SECTION 6: Accidental release measures**

Personal precautions : Use personal protective equipment. Ensure adequate

ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low

areas.

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 : Contain spillage, and then collect with non-combustible

absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to

local / national regulations (see section 13).

## **SECTION 7: Handling and storage**

#### Handling

Advice on safe handling : Avoid formation of aerosol. 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. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. 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

Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames,

hot surfaces and sources of ignition.

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## Storage

Requirements for storage areas and containers

No smoking. 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.

#### SECTION 8: Exposure controls/personal protection

## **Chevron Phillips Chemical Company LP**

Ingredients	Basis	Value	Control parameters	Note
t-Butyl Mercaptan	Manufacturer	TWA	0.5 ppm,	

#### **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 NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of

airborne material may occur, such as:. 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. 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.

Wear face-shield and protective suit for abnormal processing

problems.

Skin and body protection : Choose body protection according to the amount and

concentration of the dangerous substance at the work place. Wear as appropriate:. Protective suit. Remove and wash contaminated clothing before re-use. Footwear protecting against chemicals. Skin should be washed after contact.

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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 : Liquid
Physical state : Liquid
Color : Clear
Odor : Repulsive

Safety data

Flash point : < -15 °C (< 5 °F)

estimated

Lower explosion limit : No data available

Upper explosion limit : No data available

Oxidizing properties : no

Autoignition temperature : No data available

Molecular formula : Mixture

Molecular weight : Not applicable

pH : Not applicable

Freezing point : -45 °C (-49 °F)

Pour point No data available

Boiling point/boiling range : 63 - 65.5 °C (145 - 149.9 °F)

Vapor pressure : 5.70 PSI

at 38 °C (100 °F)

estimated

Relative density : 0.82

at 15.6 °C (60.1 °F)

Density : 818.4 g/l

Water solubility : Negligible

Partition coefficient: n-

octanol/water

: No data available

Viscosity, kinematic : No data available

Relative vapor density : 2

(Air = 1.0)

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Evaporation rate : 1

Percent volatile : > 99 %

## **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

Conditions to avoid : Heat, flames and sparks.

Hazardous decomposition products

: Carbon oxides Sulfur oxides

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

## **SECTION 11: Toxicological information**

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Acute oral toxicity : LD50: 4,547 mg/kg

Species: Rat

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Acute inhalation toxicity : LC50: 2001 MG/KGExposure time: 4 h

Species: Rat

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**Skin irritation** : May cause skin irritation.

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**Eye irritation** : May cause irreversible eye damage.

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Sensitization : Causes sensitization.

Repeated dose toxicity

t-Butyl Mercaptan : Species: Rat, Male and female

Sex: Male and female Application Route: Inhalation Dose: 9, 97, 196 ppm

Exposure time: 13 wks

Number of exposures: 6 hrs/d, 5 d/wk

NOEL: > 196 ppm

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Species: Rat, Male and female

Sex: Male and female

Application Route: oral gavage Dose: 10, 50, 200 mg/kg bw/day Exposure time: 42-53 days Number of exposures: Daily NOEL: 50 mg/kg bw/day

Lowest observable effect level: 200 mg/kg bw/day

Method: OECD Guideline 422

Species: Rat, Male and female

Sex: Male and female Application Route: Inhalation Dose: 25.1, 99.6, 403.4 ppm Exposure time: 13 wks

Number of exposures: 6 hrs/d, 5 d/wk

NOEL: 99.6 ppm

Lowest observable effect level: 403.4 ppm

Method: OECD Guideline 413

Target Organs: Liver, Kidney, Blood, Upper respiratory tract Information given is based on data obtained from similar

substances.

## Reproductive toxicity

t-Butyl Mercaptan : Species: Rat

Sex: male and female

Application Route: oral gavage
Dose: 10, 50, 200 mg/kg bw/day
Number of exposures: Daily
Test period: 42 -53 days
Method: OECD Guideline 422
NOAEL Parent: 200 mg/kg bw/day
NOAEL F1: 50 mg/kg bw/day
No adverse effects expected

## **Developmental Toxicity**

t-Butyl Mercaptan : Species: Mouse

Application Route: Inhalation
Dose: 11, 99, 195 ppm
Exposure time: GD 6-16
Number of exposures: 6 hrs/d
NOAEL Teratogenicity: > = 195 ppm
NOAEL Maternal: > = 195 ppm

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Species: Rat

Application Route: Inhalation Dose: 11, 99, 195 ppm Exposure time: GD6-19 Number of exposures: 6 hrs/d NOAEL Teratogenicity: > =195 ppm NOAEL Maternal: > = 195 ppm

Species: Rat

Application Route: oral gavage Dose: 10, 50, 200 mg/kg bw/day Exposure time: 42-53 days Number of exposures: Daily

NOAEL Teratogenicity: 50 mg/kg bw /day NOAEL Maternal: 200 mg/kg bw /day

#### **SCENTINEL® S-40 Gas Odorant**

**Aspiration toxicity** : May be harmful if swallowed and enters airways.

> Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity

hazard.

**CMR** effects

t-Butyl Mercaptan : Carcinogenicity: Not available

Mutagenicity: Did not show mutagenic effects in animal

experiments.

Teratogenicity: Did not show teratogenic effects in animal

experiments.

Reproductive toxicity: No toxicity to reproduction

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**Further information** : Solvents may degrease the skin.

## **SECTION 12: Ecological information**

**Ecotoxicity effects** 

Toxicity to fish : LC50: 56.7 mg/l

Exposure time: 96 h

Species: Salmo gairdneri (Rainbow trout)

Toxicity to daphnia and

: EC50: 8.7 mg/l Exposure time: 48 h other aquatic invertebrates

Species: Daphnia magna (Water flea)

Toxicity to algae : EC50: 40 mg/l

Exposure time: 72 h

Species: Selenastrum capricornutum (algae)

Toxicity to bacteria

Methyl Ethyl Sulfide : EC50: > 1,000 mg/l

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Exposure time: 3 h Species: Bacteria Respiration inhibition

Method: OECD Test Guideline 209

Elimination information (persistence and degradability)

Bioaccumulation

t-Butyl Mercaptan : Bioconcentration factor (BCF): 12

Bioaccumulation is unlikely.

Methyl Ethyl Sulfide : Accumulation in aquatic organisms is unlikely.

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

**Ecotoxicology Assessment** 

Acute aquatic toxicity

t-Butyl Mercaptan : Toxic to aquatic life.

Methyl Ethyl Sulfide : Harmful to aquatic life.

Chronic aquatic toxicity

t-Butyl Mercaptan : Toxic to aquatic life with long lasting effects.

Methyl Ethyl Sulfide : Harmful to aquatic life with long lasting effects.

Results of PBT assessment

t-Butyl Mercaptan : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological

information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic 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. Do not burn, or use a cutting

torch on, the empty drum.

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#### **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)**

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., (TERTIARY BUTYL MERCAPTAN, METHYL ETHYL SULFIDE), 3, II

#### IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., (TERTIARY BUTYL MERCAPTAN, METHYL ETHYL SULFIDE), 3, II, (< -15 °C), MARINE POLLUTANT, (TERTIARY BUTYL MERCAPTAN)

#### IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., (TERTIARY BUTYL MERCAPTAN, METHYL ETHYL SULFIDE), 3, II

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

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., (TERTIARY BUTYL MERCAPTAN, METHYL ETHYL SULFIDE), 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (TERTIARY BUTYL MERCAPTAN)

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

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., (TERTIARY BUTYL MERCAPTAN, METHYL ETHYL SULFIDE), 3, II, ENVIRONMENTALLY HAZARDOUS, (TERTIARY BUTYL MERCAPTAN)

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

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., (TERTIARY BUTYL MERCAPTAN, METHYL ETHYL SULFIDE), 3, II, ENVIRONMENTALLY HAZARDOUS, (TERTIARY BUTYL MERCAPTAN)

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

#### **SECTION 15: Regulatory information**

#### **National legislation**

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SARA 311/312 Hazards : Fire Hazard

Acute Health Hazard

**CERCLA Reportable** 

Quantity

: This material does not contain any components with a CERCLA

RQ.

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 Ingredients : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### 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).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

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

: t-Butyl Mercaptan - 75-66-1 Methyl Ethyl Sulfide - 624-89-5

New Jersey Right To Know

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: t-Butyl Mercaptan - 75-66-1 Methyl Ethyl Sulfide - 624-89-5

California Prop. 65

Ingredients

: This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive

defects.

#### **Notification status**

Europe REACH : On the inventory, or in compliance with the inventory

United States of America TSCA : On 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 : On the inventory, or in compliance with the inventory Japan ENCS : On the inventory, or in compliance with the inventory Korea KECI : On the inventory, or 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: 3 Reactivity Hazard: 0



## **Further information**

Legacy SDS Number : 683170

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	LD50	Lethal Dose 50%	
	Government Industrial Hygienists			
AICS	Australia, Inventory of Chemical	LOAEL	Lowest Observed Adverse Effect	
	Substances		Level	
DSL	Canada, Domestic Substances	NFPA	National Fire Protection Agency	

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	List		
NDSL	Canada, Non-Domestic	NIOSH	National Institute for Occupational
	Substances List		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
5050		NOTO	Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure	OSHA	Occupational Safety & Health
	Scenario Tool		Administration
EOSCA	European Oilfield Specialty	PEL	Permissible Exposure Limit
FINECS	Chemicals Association	DIOCO	Division of the control of the contr
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK		PRNT	Presumed Not Toxic
IVIAN	Germany Maximum Concentration Values	PRIVI	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery
0110	Globally Harmonized Gystem	10107	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	TLV	Threshold Limit Value
	on Cancer		
IECSC	Inventory of Existing Chemical	TWA	Time Weighted Average
	Substances in China		
ENCS	Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act
	New Chemical Substances		
KECI	Korea, Existing Chemical	UVCB	Unknown or Variable Composition,
	Inventory		Complex Reaction Products, and
			Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials
1.050	1 1 10 1 15 500/		Information System
LC50	Lethal Concentration 50%		

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