TERMUL® 5850

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	02/08/2019	400001014248	Date of first issue: 02/08/2019

SECTION 1. IDENTIFICATION

Product name : TERMUL® 5850

Manufacturer or supplier's details

Company name of supplier : Huntsman International LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America (USA)
Telephone : TechInfo: (281) 719-7780

E-mail address of person responsible for the SDS : SDS@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Agrochemical

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin irritation : Category 2

Serious eye damage : Category 1

Specific target organ toxicity - repeated exposure : Category 2 (Kidney, Liver, Central nervous system)

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H318 Causes serious eye damage.
H373 May cause damage to organs (Kidney, Liver, Central nervous system) through prolonged or repeated exposure.
H401 Toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P314 Get medical advice/ attention if you feel unwell.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
Not available
Disposal:
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts	68584-23-6	25 - 30
2-ethylhexan-1-ol	104-76-7	10 - 20
2,2'-oxydiethanol	111-46-6	5 - 10
Alcohols, C12-16, ethoxylated	68551-12-2	5 - 10
Tetraethylene glycol	112-60-7	1 - 5
Ethylene glycol	107-21-1	1 - 5

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.

If inhaled	:	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	None known.
Notes to physician	:	Treat symptomatically. Treatment with ethyl alcohol is indicated if toxic ingestion is suspected or if there is metabolic acidosis following ingestion of this product. Administer ethyl alcohol sufficient to maintain blood ethyl alcohol levels of above 100 mg/dL. 4-Methylpyrazole (Fomepizole, Antizole) is also a recognized antidote for this product.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	Carbon oxides
Specific extinguishing methods	:	No data is available on the product itself.
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.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Refer to protective measures listed in sections 7 and 8.

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 and materials for containment and 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

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : 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.
Keep in properly labelled containers.

Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.

Further information on storage stability : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

Ethylene glycol	107-21-1	TWA (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m3	ACGIH

Personal protective equipment

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
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	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
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

Appearance	:	liquid
Colour	:	amber
Odour	:	No data is available on the product itself.
Odour Threshold	:	No data is available on the product itself.
pH	:	7 - 9
Freezing point	:	No data is available on the product itself.
Melting point	:	No data is available on the product itself.
Boiling point	:	208 °F / 98 °C
Flash point	:	244 °F / 118 °C Method: Pensky-Martens closed cup, closed cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Flammability (liquids)	:	No data is available on the product itself.

Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Relative density	:	1.03
Density	:	No data is available on the product itself.
Solubility(ies)		
Water solubility	:	No data is available on the product itself.
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	No data is available on the product itself.
Thermal decomposition	:	No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity		
Viscosity, kinematic	:	151 mm2/s (104 °F / 40 °C)
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.
Particle size	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	None known.
Incompatible materials	:	None known.
Hazardous decomposition products	:	carbon dioxide carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute inhalation toxicity - Product : Acute toxicity estimate: 61.11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : 4,719 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Species: Rabbit
Assessment: Irritating to skin.
Method: OECD Test Guideline 404
Result: Irritating to skin.

2-ethylhexan-1-ol**:**
Species: Rabbit
Assessment: Severe skin irritation
Method: OECD Test Guideline 404
Result: Irritating to skin.

2,2'-oxydiethanol**:**
Species: Rabbit
Assessment: No skin irritation
Result: No skin irritation

Alcohols, C12-16, ethoxylated**:**
Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: No skin irritation

Ethylene glycol**:**
Species: Rabbit
Exposure time: 20 h
Result: No skin irritation

Serious eye damage/eye irritation

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Species: Rabbit
Result: Irreversible effects on the eye
Assessment: Corrosive
Method: OECD Test Guideline 405

2-ethylhexan-1-ol**:**
Species: Rabbit
Result: Irritating to eyes.
Assessment: Irritant
Method: OECD Test Guideline 405

2,2'-oxydiethanol**:**
Species: Rabbit
Result: No eye irritation
Exposure time: 24 h
Assessment: No eye irritation
Remarks: No eye irritation

Alcohols, C12-16, ethoxylated**:**
Species: Rabbit
Result: Normally reversible injuries
Assessment: No eye irritation
Method: OECD Test Guideline 405

Tetraethylene glycol**:**
Result: Irritation to eyes, reversing within 7 days
Assessment: Severe eye irritation

Ethylene glycol**:**
Result: Mild eye irritation

Respiratory or skin sensitisation

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

2-ethylhexan-1-ol**:**
Exposure routes: Skin
Species: Humans
Result: Does not cause skin sensitisation.

2,2'-oxydiethanol**:**
Exposure routes: Skin
Species: Guinea pig
Method: Directive 67/548/EEC, Annex V, B.6.
Result: Does not cause skin sensitisation.

Alcohols, C12-16, ethoxylated**:**

Exposure routes: Skin
Species: Humans
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Ethylene glycol**:**
Test Type: Maximisation Test
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Not a skin sensitizer.

Assessment: No data available

Germ cell mutagenicity

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Genotoxicity in vitro : Concentration: 8 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

2-ethylhexan-1-ol**:**
Genotoxicity in vitro : Concentration: .018 - .24 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Concentration: 1 - 1000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Concentration: 50 - 500 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Alcohols, C12-16, ethoxylated**:**
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Ethylene glycol**:**
Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella tryphimurium and E. coli
Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471
Result: negative

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:
Genotoxicity in vivo : Application Route: Oral
Exposure time: 72 h
Dose: 1122 mg/kg
Method: OECD Test Guideline 474
Result: negative

2,2'-oxydiethanol:
Genotoxicity in vivo : Cell type: Somatic
Application Route: Intraperitoneal injection
Dose: 500 - 2000 mg/kg
Method: OECD Test Guideline 474
Result: negative

Ethylene glycol:
Genotoxicity in vivo : Test Type: dominant lethal test
Species: Rat (male and female)
Cell type: Germ
Application Route: Oral
Dose: 40/200/1000 mg/kg
Result: negative

Carcinogenicity

Components:

2-ethylhexan-1-ol:
Species: Rat, male and female
Application Route: Oral
Exposure time: 24 month(s)
Dose: 500 mg/kg
Frequency of Treatment: 5 daily
Method: OECD Test Guideline 453
Result: negative
Target Organs: Gastro-intestinal system, Brain, Liver, Kidney, Testes

2,2'-oxydiethanol:
Species: Rat, male and female
Application Route: Oral
Exposure time: 108 weeks
Dose: 1160 - 1210 mg/kg
Frequency of Treatment: 7 daily
Result: negative

Alcohols, C12-16, ethoxylated:
Species: Rat, male and female
Application Route: Oral
Exposure time: 24 month(s)
Dose: 500 mg/kg
Result: negative

Ethylene glycol:

Species: Rat, male and female
Application Route: Oral
Exposure time: 24 month(s)
Dose: 40/200/1000 mg/kg
Frequency of Treatment: 7 d/Weeks daily
NOAEL: 1,000 mg/kg bw/day

Result: negative

Species: Mouse, male and female
Application Route: Oral
Exposure time: 103 weeks
Frequency of Treatment: 7 d/Weeks daily
NOAEL: 1,500 mg/kg bw/day

Result: negative

Carcinogenicity - Assessment : No data available

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Effects on fertility : Species: Rat, male and female
Application Route: Oral
Result: negative

Alcohols, C12-16, ethoxylated**:**
Species: Rat, male and female
Application Route: Dermal
Target Organs: Heart, Liver, Lungs, Kidney, Testes
Method: OECD Test Guideline 416

Ethylene glycol**:**
Species: Mouse, male and female
Application Route: Oral
Dose: 40/200/1000 milligram per kilogram
Frequency of Treatment: 7 days/week
General Toxicity - Parent: No-observed-effect level: 1,000 mg/kg body weight

General Toxicity F1: No-observed-effect level: 1,000 mg/kg body weight

Species: Rat, male and female
Application Route: Oral
Dose: 40/200/1000 milligram per kilogram
Frequency of Treatment: 7 days/week
General Toxicity - Parent: No observed adverse effect level: 1,000 mg/kg body weight

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:

Effects on foetal development : Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 300 mg/kg body weight
Result: No teratogenic effects

Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 2 mg/kg body weight
Result: No teratogenic effects

2-ethylhexan-1-ol:

Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 130 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

2,2'-oxydiethanol:

Species: Rabbit
Application Route: Oral
Dose: 1000 milligram per kilogram
Method: OECD Test Guideline 414
Result: No teratogenic effects

Alcohols, C12-16, ethoxylated:

Species: Rat, male and female
Application Route: Dermal
Result: No teratogenic effects

Ethylene glycol:

Test Type: Embryo-foetal development
Species: Rat, female
Application Route: Oral
Duration of Single Treatment: 336 h
Frequency of Treatment: 7 days/week
General Toxicity Maternal: No observed adverse effect level: 250 mg/kg body weight
Developmental Toxicity: No observed adverse effect level: 250 mg/kg body weight
Result: No teratogenic effects

Reproductive toxicity - Assessment : No data available

STOT - single exposure

Components:

2-ethylhexan-1-ol**:**
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause respiratory irritation.

2,2'-oxydiethanol**:**
Target Organs: Central nervous system, Kidney
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Ethylene glycol**:**
Target Organs: Kidney, Central nervous system
Remarks: Not classified due to data which are conclusive although insufficient for classification.

STOT - repeated exposure

Components:

2,2'-oxydiethanol**:**
Exposure routes: Ingestion
Target Organs: Kidney, Liver, Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Ethylene glycol**:**
Exposure routes: Ingestion
Target Organs: Kidney, Central nervous system, Liver
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Species: Rat, male and female
NOAEL: 125 mg/kg/d
Application Route: Ingestion
Exposure time: 672 h
Number of exposures: 7 d
Method: Subacute toxicity

Species: Rat, male and female
NOAEL: 85 mg/kg/d
Application Route: Ingestion
Exposure time: 6,480 h
Number of exposures: 7 d
Method: Subchronic toxicity

2-ethylhexan-1-ol**:**
Species: Rat, male and female
Test atmosphere: vapour
Exposure time: 2,160 h
Number of exposures: 5 d
Method: OECD Test Guideline 413

Species: Rat
NOEL: 125 mg/kg
Application Route: Ingestion
Exposure time: 13 Weeks
Number of exposures: 5 d
Method: Subchronic toxicity

2,2'-oxydiethanol**:**
Species: Rat, male and female
NOEL: 150 mg/kg
Application Route: Ingestion
Exposure time: 28 Days
Method: Subacute toxicity

Alcohols, C12-16, ethoxylated**:**
Species: Rat, male and female
NOAEL: >= 500 mg/kg/d
Application Route: Ingestion
Exposure time: 2,160 h
Method: Subchronic toxicity

Ethylene glycol**:**
Species: Rat, male
NOEL: 150 mg/kg/d
Application Route: oral (feed)
Exposure time: 16 Weeks
Number of exposures: 7 d/weeks
Dose: 50/150/500/1000 mg/kg bw
Method: OECD Test Guideline 408

Species: Rat, male and female
NOAEL: 200 mg/kg/d
Application Route: oral (gavage)
Exposure time: 33 d
Number of exposures: 7 d/weeks
Dose: 220/660/2000 mg/kg bw
Method: Chronic toxicity
Target Organs: Kidney

Species: Mouse, male and female
NOAEL: 12500 ppm
Application Route: oral (feed)
Exposure time: 13 Weeks
Dose: 3200/6300/12500/25000 ppm
Method: Subchronic toxicity

Species: Rat, male
NOAEL: 150 mg/kg/d
Application Route: oral (feed)
Exposure time: 52 Weeks
Number of exposures: 7 d/weeks
Dose: 50/150/300/400 mg/kg/bw
Method: OECD Test Guideline 452

Species: Dog, male
NOAEL: ca. 2200 mg/kg
Application Route: Skin contact
Exposure time: 4 Weeks
Number of exposures: 7 d/ weeks
Dose: 0,5/2,0/8,0 ml/kg bw
Method: OECD Test Guideline 410

Species: Dog, male
NOAEL: ca. 2200 - 4400 mg/kg
Application Route: Skin contact
Exposure time: 4 Weeks
Number of exposures: 7 d/weeks
Dose: 2,0/4,0 ml/kg bw
Method: OECD Test Guideline 410

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Ingestion: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:

Toxicity to fish : LC50: > 1 - < 10 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

2-ethylhexan-1-ol:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 17.1 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.

2,2'-oxydiethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 75,200 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Remarks: Toxic to aquatic organisms.

Alcohols, C12-16, ethoxylated:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 2 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: Determination of the Acute Lethal Toxicity of Substances to a Freshwater Fish [Brachydanio rerio Hamilton-Buchanan (Teleostei, C

Ethylene glycol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 72,860 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.9 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

2-ethylhexan-1-ol:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 39 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

2,2'-oxydiethanol:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38412

Alcohols, C12-16, ethoxylated:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1.4 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

Ethylene glycol:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:
Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 29 mg/l
Exposure time: 96 h
Test Type: static test

2-ethylhexan-1-ol:
Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 11.5 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.3.

IC50 (Desmodesmus subspicatus (green algae)): 11.5 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.3.

Alcohols, C12-16, ethoxylated:
Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 3.1 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water

ErC50 (Desmodesmus subspicatus (green algae)): > 990 mg/l
Exposure time: 72 h
Test Type: static test

Test substance: Fresh water
Method: OECD Test Guideline 201

Ethylene glycol**:**
Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (algae)): 6,500 - 13,000 mg/l
Exposure time: 96 h
Test Type: static test

M-Factor (Acute aquatic toxicity) : No data available

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l
Exposure time: 72 d
Test Type: flow-through test

2,2'-oxydiethanol**:**
Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 15,380 mg/l
Exposure time: 17 d
Test substance: Fresh water

Ethylene glycol**:**
Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 32,000 mg/l
Exposure time: 7 d
Test Type: static test
Test substance: Fresh water

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.18 mg/l
Exposure time: 21 d
Test Type: flow-through test
Test substance: Fresh water

2,2'-oxydiethanol**:**
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia (water flea)): 8,590 mg/l
Exposure time: 7 d
Test Type: static test
Test substance: Fresh water

Ethylene glycol**:**
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (Water flea)): 8,590 mg/l
Exposure time: 7 d
Test Type: semi-static test
Test substance: Fresh water

M-Factor (Chronic aquatic toxicity) : No data available

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**
Toxicity to microorganisms : EC50 (activated sludge): 550 mg/l

Exposure time: 3 h
Method: OECD Test Guideline 209

2,2'-oxydiethanol:
Toxicity to microorganisms : IC50: > 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Alcohols, C12-16, ethoxylated:
Toxicity to microorganisms : EC50 (Pseudomonas putida): > 10 g/l
Exposure time: 16.9 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38 412 Part 8

Ethylene glycol:
Toxicity to microorganisms : EC20 (activated sludge): > 1,995 mg/l
Exposure time: 30 min
Test Type: static test
Test substance: Fresh water
Method: ISO 8192

Toxicity to soil dwelling organisms : No data available

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:
Plant toxicity : EC50: 142 mg/kg
Exposure time: 336 h
Test substance: Synthetic
Method: Terrestrial Plants Test: Seedling Emergence and Seedling Growth Test

Alcohols, C12-16, ethoxylated:
Plant toxicity : NOEC: >= 100 mg/kg
Exposure time: 456 h
Test substance: Natural
Method: Terrestrial Plants Test: Seedling Emergence and Seedling Growth Test

Sediment toxicity : No data available

Components:

Alcohols, C12-16, ethoxylated:
Toxicity to terrestrial organisms : EC50: 360 mg/kg
Exposure time: 72 h
Test substance: Natural

Ecotoxicology Assessment
Acute aquatic toxicity : No data available

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:

Biodegradability : Inoculum: activated sludge
Result: Readily biodegradable.
Exposure time: 28 d
Method: OECD Test Guideline 301B

Inoculum: Soil
Concentration: .2 - 20
Result: Readily biodegradable.
Biodegradation: 70 - 99 %
Exposure time: 122 d

2-ethylhexan-1-ol:

Biodegradability : Concentration: 100 mg/l
Result: Readily biodegradable.
Biodegradation: 79 - 99 %
Exposure time: 14 d
Method: OECD Test Guideline 301C

2,2'-oxydiethanol:

Biodegradability : Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: >= 70 %
Exposure time: 10 - 29 d

Alcohols, C12-16, ethoxylated:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 60 - 95.4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Ethylene glycol:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 90 - 100 % (Dissolved organic carbon (DOC))
Exposure time: 10 d
Method: OECD Test Guideline 301A

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD	:	No data available
ThOD	:	No data available
BOD/ThOD	:	No data available
Dissolved organic carbon (DOC)	:	No data available
Physico-chemical removability	:	No data available

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:

Stability in water	:	Degradation half life(DT50): > 1 yr (122 °F / 50 °C) pH: 7.4 Method: OECD Test Guideline 111 Remarks: Fresh water
Photodegradation	:	No data available
Impact on Sewage Treatment	:	No data available

Bioaccumulative potential

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts:

Bioaccumulation	:	Species: Pimephales promelas (fathead minnow) Bioconcentration factor (BCF): 2 - 1,000 Exposure time: 8 d Test substance: Fresh water Method: flow-through test Remarks: Bioaccumulation is unlikely.

2-ethylhexan-1-ol:

Bioaccumulation	:	Bioconcentration factor (BCF): 25.33 Remarks: Bioaccumulation is unlikely.

2,2'-oxydiethanol:

Bioaccumulation	:	Species: Leuciscus idus (Golden orfe) Bioconcentration factor (BCF): 100 Exposure time: 3 d Test substance: Fresh water Method: OECD Test Guideline 305

Alcohols, C12-16, ethoxylated:

Bioaccumulation	:	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): < 4.3 Exposure time: 2 h Test substance: Fresh water Method: Bioaccumulation: Static Fish Test Remarks: Does not bioaccumulate.

Components:

Benzenesulfonic acid, 4-C10-14-alkyl derivs., calcium salts**:**

Partition coefficient: n-octanol/water	:	log Pow: 2.89 (68 °F / 20 °C) Method: Partition coefficient

2-ethylhexan-1-ol**:**

Partition coefficient: n-octanol/water	:	log Pow: 2.9 (77 °F / 25 °C) pH: 7 Method: OECD Test Guideline 117

2,2'-oxydiethanol**:**

Partition coefficient: n-octanol/water	:	log Pow: -1.98 (77 °F / 25 °C)

Alcohols, C12-16, ethoxylated**:**

Partition coefficient: n-octanol/water	:	log Pow: <= 3.74

Ethylene glycol**:**

Partition coefficient: n-octanol/water	:	log Pow: -1.36

Mobility in soil

Mobility	:	No data available

Components:

2-ethylhexan-1-ol**:**

Distribution among environmental compartments	:	Koc: 26.01

Alcohols, C12-16, ethoxylated**:**

Distribution among environmental compartments	:	Koc: > 123485.91

Ethylene glycol**:**

Distribution among environmental compartments	:	Adsorption/Soil Medium: Soil Koc: 0 - 1 Method: Calculation method
Stability in soil	:	No data available

Other adverse effects

Environmental fate and pathways	:	No data available
Results of PBT and vPvB assessment	:	No data available
Endocrine disrupting potential	:	No data available
Adsorbed organic bound halogens (AOX)	:	No data available

Hazardous to the ozone layer

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: 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).
Additional ecological information - Product	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.
Global warming potential (GWP)	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	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. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of contents/ container to an approved waste disposal plant.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA
Not regulated as dangerous goods

IMDG
Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

DOT Classification
Not regulated as dangerous goods

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Ethylene glycol	107-21-1	5000	*
ethylene oxide	75-21-8	10	*
methyloxirane	75-56-9	100	*
acetaldehyde	75-07-0	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Ethylene glycol 107-21-1 >= 1 - < 5 %

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

2,2'-oxydiethanol 111-46-6
Ethylene glycol 107-21-1

California Prop. 65

WARNING: This product can expose you to chemicals including ethylene oxide, acetaldehyde, methyloxirane, which is/are known to the State of California to cause cancer, and Ethylene glycol, ethylene oxide, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

CH INV : The formulation contains substances listed on the Swiss Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : Not in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

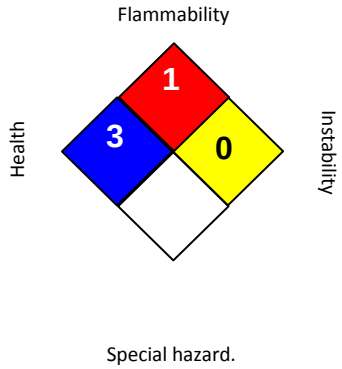
TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No substances are subject to TSCA 12(b) export notification requirements.

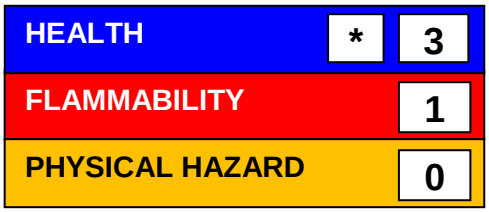
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

Revision Date : 02/08/2019

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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