



Di-(2-Hydroxyethyl) Disulfide

Version 1.9

Revision Date 2023-05-19

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 : Di-(2-Hydroxyethyl) Disulfide
 Material : 1121425, 1116603, 1107391, 1088334, 1077080, 1070368,
 1079211, 1086445, 1086807, 1077079, 1097790, 1027449,
 1024827

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Dithiodiglycol	1892-29-1 217-576-6	Chevron Phillips Chemicals International NV 01-2120764007-57-0000

1.2

Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses Supported : Intermediate: The substance is registered as a Transported Isolated Intermediate with Strictly Controlled Conditions (SCC) defined in Article 18(4) of Regulation EC No. 1907/2006 and must therefore be handled as such.

1.3

Details of the supplier of the safety data sheet

Company : Chevron Phillips Chemical Company LP
 Specialty Chemicals
 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

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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 (Gifflinjen): +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**

SDS Number:100000014145

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Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 3	H311: Toxic in contact with skin.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2**Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms	:	
Signal Word	:	Danger
Hazard Statements	:	H301 + H311 Toxic if swallowed or in contact with skin. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Precautionary Statements	:	Prevention: P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. P264 Wash skin thoroughly after handling. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. Response: P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth. P391 Collect spillage.

Hazardous ingredients which must be listed on the label:

- 1892-29-1 Dithiodiglycol

Additional Labeling:

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 5 %
The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 5 %

2.3**Other hazards**

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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 : Dithiodiglycol
DiHEDS

Molecular formula : C₄H₁₀O₂S₂

Hazardous ingredients

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]	Specific Conc. Limits, M-factors and ATEs
Dithiodiglycol	1892-29-1 217-576-6	Acute Tox. 3; H301 Acute Tox. 3; H311 Eye Irrit. 2; H319 Skin Sens. 1B; H317 STOT RE 2; H373 Aquatic Chronic 2; H411	88	

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

SECTION 4: First aid measures**4.1****Description of first-aid measures**

- General advice : Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of skin contact : If on skin, rinse well with water.
- 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. 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

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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 : 285°C (545°F)
Method: EU Method A.15**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 : Do not allow run-off from fire fighting to enter drains or water courses.

5.3**Advice for firefighters**

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 : Normal measures for preventive fire protection.

Hazardous decomposition products : Carbon oxides. Sulfur oxides.

SECTION 6: Accidental release measures**6.1****Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.

6.2**Environmental precautions**

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.

6.3**Methods and materials for containment and cleaning up**

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Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

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 : 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. 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 : Normal measures for preventive fire protection.

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. 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**8.2****Exposure controls
Engineering measures**

Adequate ventilation to control airborne 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

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- 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:. 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.
- 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:. Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus. Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.
- Hygiene measures : Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

In case of an accident during maintenance/cleaning, this substance must be handled under Strictly Controlled Conditions (SCC) in accordance with REACH regulation Article 18(4) for transported isolated intermediates.

SECTION 9: Physical and chemical properties**9.1****Information on basic physical and chemical properties****Appearance**

- Form : liquid
 Physical state : liquid
 Color : Colorless to light yellow
 Odor : Pungent

Safety data

- Flash point : Not applicable
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Oxidizing properties : No

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Autoignition temperature	: 285°C (545°F) Method: EU Method A.15
Molecular formula	: C ₄ H ₁₀ O ₂ S ₂
Molecular weight	: 154,26 g/mol
pH	: Not applicable
Freezing point	: 5°C (41°F)
Boiling point/boiling range	: Not applicable
Vapor pressure	: 0,00 Pa at 37,8°C (100,0°F) Method: OECD Test Guideline 104 estimated
Relative density	: 1,25 at 15,6 °C (60,1 °F)
Density	: 1,29 G/ML
Water solubility	: > 1.000 g/l at 20°C (68°F) Method: OECD Test Guideline 105
Partition coefficient: n-octanol/water	: log Pow: -0,3 at 20°C (68°F) Method: OECD Test Guideline 107
Viscosity, kinematic	: 50 cSt at 40°C (104°F)
Relative vapor density	: 2,69 (Air = 1.0)
Evaporation rate	: No data available
Percent volatile	: > 99 %

9.2**Other information**

Conductivity : No data available

SECTION 10: Stability and reactivity**10.1****Reactivity** : Stable under recommended storage conditions.**10.2**

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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 : Hazardous reactions: Hazardous polymerization does not occur.

10.4

Conditions to avoid : No data available.

10.5

Materials to avoid : Avoid oxidizing agents.

10.6

Hazardous decomposition products : Carbon oxides
Sulfur oxides

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

SECTION 11: Toxicological information**11.1****Information on toxicological effects****Acute oral toxicity**

Dithiodiglycol : LD50: 376 mg/kg
Species: Rat
Sex: male
Method: OECD Test Guideline 401

LD50: 173 mg/kg
Species: Rat
Sex: female
Method: OECD Test Guideline 401

Acute dermal toxicity

Dithiodiglycol : LD50: 516 mg/kg
Species: Rabbit
Sex: male and female
Method: OECD Test Guideline 402

Skin irritation

Dithiodiglycol : No skin irritation

Eye irritation

Dithiodiglycol : Eye irritation

Sensitization

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Dithiodiglycol : The product is a skin sensitizer, sub-category 1B.

Repeated dose toxicity

Dithiodiglycol : Species: Rat, male
Sex: male
Application Route: oral gavage
Dose: 0, 5, 20, 75 mg/kg
Exposure time: 30 d
Number of exposures: Daily
NOEL: 20 mg/kg
Lowest observable effect level: 75 mg/kg
Method: OECD Guideline 422
Target Organs: Kidney, Liver

Species: Rat, female
Sex: female
Application Route: oral gavage
Dose: 0, 5, 20, 75 mg/kg
Exposure time: 42 d
Number of exposures: Daily
NOEL: 20 mg/kg
Method: OECD Guideline 422

Genotoxicity in vitro

Dithiodiglycol : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Test Type: Mouse lymphoma assay
Metabolic activation: with and without metabolic activation
Result: Ambiguous

Genotoxicity in vivo

Dithiodiglycol : Test Type: Mouse micronucleus assay
Species: Mouse
Route of Application: Oral
Exposure time: 24 - 48 h
Method: OECD Test Guideline 474
Result: negative

Reproductive toxicity

Dithiodiglycol : Species: Rat
Sex: male
Application Route: oral gavage
Dose: 0, 5, 20, 75 mg/kg bw
Exposure time: 30 d
Number of exposures: Daily
Method: OECD Guideline 422

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NOAEL Parent: 20 mg/kg
 NOAEL F1: 20 mg/kg
 Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Species: Rat
 Sex: female
 Application Route: oral gavage
 Dose: 0, 5, 20, 75 mg/kg bw
 Exposure time: 42 d
 Number of exposures: Daily
 Method: OECD Guideline 422
 NOAEL Parent: 20 mg/kg
 NOAEL F1: 20 mg/kg
 Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Di-(2-Hydroxyethyl) Disulfide
Aspiration toxicity : No aspiration toxicity classification.

Specific Target Organ Toxicity (Repeated Exposure)
 Dithiodiglycol : Route of Exposure: Ingestion
 Target Organs: Kidney, Liver
 Assessment: May cause damage to organs through prolonged or repeated exposure.

11.2**Information on other hazards**

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Further information : Solvents may degrease the skin.
 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****Toxicity to fish**

Dithiodiglycol : LC50: > 100 mg/l
 Exposure time: 96 h
 Species: Cyprinus carpio (Carp)
 static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Dithiodiglycol : EC50: 4,4 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

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Toxicity to algae

Dithiodiglycol : ErC50: > 100 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)
Growth inhibition Method: OECD Test Guideline 201

EyC50: 45 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)
Growth inhibition Method: OECD Test Guideline 201

Toxicity to bacteria

Dithiodiglycol : EC50: 612 mg/l
Exposure time: 3 h
Growth rate
Species: Bacteria
Respiration inhibition
Method: OECD Test Guideline 209

12.2**Persistence and degradability**

Biodegradability

Dithiodiglycol : aerobic
Result: Not readily biodegradable.
20 %
Testing period: 28 d
Method: OECD Test Guideline 310

12.3**Bioaccumulative potential**

Bioaccumulation

Dithiodiglycol : No bioaccumulation is to be expected (log Pow <= 4).

12.4**Mobility in soil**

Mobility

Dithiodiglycol : No data available

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 : The substance/mixture does not contain components

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properties 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 : Toxic to aquatic life with long lasting effects.

12.8**Additional Information****Ecotoxicology Assessment**

Short-term (acute) aquatic hazard
Dithiodiglycol : Toxic to aquatic life.

Long-term (chronic) aquatic hazard
Dithiodiglycol : Toxic to aquatic life with long lasting effects.

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 : 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**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.

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US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN2810, TOXIC, LIQUIDS, ORGANIC, N.O.S., (DITHIODIGLYCOL), 6.1, III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (DITHIODIGLYCOL), 6.1, III, MARINE POLLUTANT, (DITHIODIGLYCOL)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (DITHIODIGLYCOL), 6.1, III

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

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (DITHIODIGLYCOL), 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS, (DITHIODIGLYCOL)

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

60, UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (DITHIODIGLYCOL), 6.1, III, ENVIRONMENTALLY HAZARDOUS, (DITHIODIGLYCOL)

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

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (DITHIODIGLYCOL), 6.1, III, ENVIRONMENTALLY HAZARDOUS, (DITHIODIGLYCOL)

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) 2020/878 of 18 June 2020 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 3 highly water endangering**15.2****Major Accident Hazard Legislation** : ZEU_SEVES3 Update:
ENVIRONMENTAL HAZARDS
E2
Quantity 1: 200 t
Quantity 2: 500 t**Notification status**

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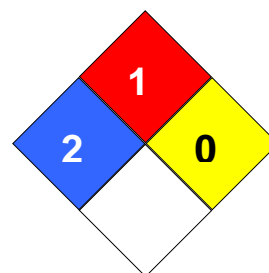
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Europe REACH	:	This product is in full compliance according to REACH regulation 1907/2006/EC.
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada NDSL	:	This product contains one or several components that are not on the Canadian DSL nor NDSL.
Australia AIIC	:	On the inventory, or 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).
Taiwan TCSI	:	On the inventory, or in compliance with the inventory

SECTION 16: Other information

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

**Further information**

Legacy SDS Number : 96130

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

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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

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

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.