



ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 21/3/2016

Revision date: 21/3/2016

Supersedes:

Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Product name : ENOC STRATA CYL 540
Product code : 252017

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Lubricants for Cylinder lubrication in marine crosshead diesel engines

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ENOC Marketing L.L.C
ENOC House I
Dubai - United Arab Emirates
T +971 4 313 4613 - F +971 4 313 4616

1.4. Emergency telephone number

Emergency number : +97143374400
(business hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH208 - Contains Calcium petroleum sulfonate(61789-86-4). May produce an allergic reaction

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Phenol, 2,2'-polythiobis[4-C8-30-alkyl derivatives, calcium salts, overbased	(CAS No) 90480-91-4 (EC no) 291-829-9 (REACH-no) 01-2119524004-5	2,3	Aquatic Chronic 4, H413
Calcium petroleum sulfonate	(CAS No) 61789-86-4 (EC no) 263-093-9 (REACH-no) Not available	0,1	Skin Sens. 1, H317
ethanediol, ethylene glycol	(CAS No) 107-21-1 (EC no) 203-473-3 (EC index no) 603-027-00-1 (REACH-no) 01-2119456816-2	0,1	Acute Tox. 4 (Oral), H302

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- | | |
|---------------------------------------|--|
| First-aid measures after inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| First-aid measures after skin contact | : Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. If skin irritation occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse immediately and plentifully with water, also under the eyelids, for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| First-aid measures after ingestion | : Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately get medical attention. |

4.2. Most important symptoms and effects, both acute and delayed

- | | |
|--------------------------------------|---|
| Symptoms/injuries after inhalation | : May cause irritation to the respiratory tract. May cause drowsiness or dizziness. |
| Symptoms/injuries after skin contact | : Injection under the skin of pressurized hydrocarbons can cause severe, permanent tissue damage. May cause skin irritation / dermatitis. |
| Symptoms/injuries after eye contact | : May cause eye irritation. |
| Symptoms/injuries after ingestion | : May result in aspiration into the lungs, causing chemical pneumonia. |

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- | | |
|--------------------------------|--|
| Suitable extinguishing media | : carbon dioxide (CO ₂), water, dry chemical powder. |
| Unsuitable extinguishing media | : None known. |

5.2. Special hazards arising from the substance or mixture

- | | |
|--|---|
| Fire hazard | : None known. |
| Explosion hazard | : None known. |
| Hazardous decomposition products in case of fire | : Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide. Aldehydes. Sulfur oxides. |

5.3. Advice for firefighters

- | | |
|---------------------------------------|---|
| Firefighting instructions | : Cool down the containers exposed to heat with a water spray. |
| Protective equipment for firefighters | : Wear proper protective equipment. In case of fire: Wear self-contained breathing apparatus. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- | | |
|----------------------|---|
| Protective equipment | : Wear personal protection equipment. |
| Emergency procedures | : Evacuate area. Avoid contact with skin, eyes and clothes. |

6.1.2. For emergency responders

- | | |
|----------------------|--|
| Protective equipment | : Wear suitable protective clothing. In case of fire: Wear self-contained breathing apparatus. |
| Emergency procedures | : Evacuate and limit access. Stop leak if safe to do so. Use ventilation/water spray/fog to disperse vapours. Do not touch spilled material. |

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- | | |
|-------------------------|--|
| For containment | : Clean up any spills as soon as possible, using an absorbent material to collect it. For larger spills, dike area and pump into waste containers. |
| Methods for cleaning up | : Collect all waste in suitable and labelled containers and dispose according to local legislation. |

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- | | |
|-----------------------------------|--|
| Additional hazards when processed | : Handling this product may result in electrostatic accumulation. Use proper grounding procedures. |
| Precautions for safe handling | : Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Avoid static electricity discharges. Provide earthing of containers, equipment, pumps and ventilation facilities. |

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Handle in accordance with good industrial hygiene and safety practices. Take off contaminated clothes. Wash contaminated clothing prior to re-use.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry, cool and well-ventilated place.
Special rules on packaging : Keep only in original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Calcium petroleum sulfonate (61789-86-4)		
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	5 mg/m ³ (respirable fraction)
ethanediol, ethylene glycol (107-21-1)		
EU	IOELV TWA (mg/m ³)	52 mg/m ³
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m ³)	104 mg/m ³
EU	IOELV STEL (ppm)	40 ppm
Austria	MAK (mg/m ³)	26 mg/m ³
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (ppm)	20 ppm
Bulgaria	OEL TWA (mg/m ³)	52 mg/m ³
Bulgaria	OEL STEL (mg/m ³)	104 mg/m ³
Cyprus	OEL TWA (mg/m ³)	52 mg/m ³
Cyprus	OEL TWA (ppm)	20 ppm
Cyprus	OEL STEL (mg/m ³)	104 mg/m ³
Cyprus	OEL STEL (ppm)	40 ppm
Czech Republic	Expoziční limity (PEL) (mg/m ³)	50 mg/m ³
Denmark	Grænseværdie (langvarig) (mg/m ³)	26 mg/m ³ 10 mg/m ³ (vapor)
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm
Estonia	OEL TWA (mg/m ³)	52 mg/m ³ (total concentration of aerosol and vapor)
Estonia	OEL TWA (ppm)	20 ppm (total concentration of aerosol and vapor)
Estonia	OEL STEL (mg/m ³)	104 mg/m ³ (total concentration of aerosol and vapor)
Estonia	OEL STEL (ppm)	40 ppm (total concentration of aerosol and vapor)
Finland	HTP-arvo (8h) (mg/m ³)	50 mg/m ³
Finland	HTP-arvo (8h) (ppm)	20 ppm
Finland	HTP-arvo (15 min)	100 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	40 ppm
France	VME (mg/m ³)	52 mg/m ³
France	VME (ppm)	20 ppm
France	VLE (mg/m ³)	104 mg/m ³
France	VLE (ppm)	40 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	26 mg/m ³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Gibraltar	OEL TWA (mg/m ³)	52 mg/m ³
Gibraltar	OEL TWA (ppm)	20 ppm
Gibraltar	OEL STEL (mg/m ³)	104 mg/m ³
Gibraltar	OEL STEL (ppm)	40 ppm
Greece	OEL TWA (mg/m ³)	125 mg/m ³ (vapor)
Greece	OEL TWA (ppm)	50 ppm (vapor)
Greece	OEL STEL (mg/m ³)	125 mg/m ³ (vapor)
Greece	OEL STEL (ppm)	50 ppm (vapor)

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

ethanediol, ethylene glycol (107-21-1)		
Hungary	AK-érték	52 mg/m ³
Hungary	CK-érték	104 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³ (particulate) 52 mg/m ³ (vapour)
Ireland	OEL (8 hours ref) (ppm)	20 ppm (vapour)
Ireland	OEL (15 min ref) (mg/m ³)	104 mg/m ³ (vapour)
Ireland	OEL (15 min ref) (ppm)	40 ppm (particulate)
Italy	OEL TWA (mg/m ³)	52 mg/m ³
Italy	OEL TWA (ppm)	20 ppm
Italy	OEL STEL (mg/m ³)	104 mg/m ³
Italy	OEL STEL (ppm)	40 ppm
Latvia	OEL TWA (mg/m ³)	52 mg/m ³
Latvia	OEL TWA (ppm)	20 ppm
Lithuania	IPRV (mg/m ³)	25 mg/m ³ (aerosol and vapor)
Lithuania	IPRV (ppm)	10 ppm (aerosol and vapor)
Lithuania	TPRV (mg/m ³)	50 mg/m ³ (aerosol and vapor)
Lithuania	TPRV (ppm)	20 ppm (aerosol and vapor)
Luxembourg	OEL TWA (mg/m ³)	52 mg/m ³
Luxembourg	OEL TWA (ppm)	20 ppm
Luxembourg	OEL STEL (mg/m ³)	104 mg/m ³
Luxembourg	OEL STEL (ppm)	40 ppm
Malta	OEL TWA (mg/m ³)	52 mg/m ³
Malta	OEL TWA (ppm)	20 ppm
Malta	OEL STEL (mg/m ³)	104 mg/m ³
Malta	OEL STEL (ppm)	40 ppm
Netherlands	Grenswaarde TGG 8H (mg/m ³)	10 mg/m ³
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	104 mg/m ³
Poland	NDS (mg/m ³)	15 mg/m ³
Poland	NDSch (mg/m ³)	50 mg/m ³
Romania	OEL TWA (mg/m ³)	52 mg/m ³
Romania	OEL TWA (ppm)	20 ppm
Romania	OEL STEL (mg/m ³)	104 mg/m ³
Romania	OEL STEL (ppm)	40 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	52 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	20 ppm
Slovakia	NPHV (Hraničná) (mg/m ³)	104 mg/m ³
Slovenia	OEL TWA (mg/m ³)	52 mg/m ³
Slovenia	OEL TWA (ppm)	20 ppm
Slovenia	OEL STEL (mg/m ³)	104 mg/m ³
Slovenia	OEL STEL (ppm)	40 ppm
Spain	VLA-ED (mg/m ³)	52 mg/m ³
Spain	VLA-ED (ppm)	20 ppm
Spain	VLA-EC (mg/m ³)	104 mg/m ³
Spain	VLA-EC (ppm)	40 ppm
Sweden	nivågränsvärde (NVG) (mg/m ³)	25 mg/m ³ (aerosol and vapor)
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm (aerosol and vapor)
Sweden	kortidsvärde (KTV) (mg/m ³)	50 mg/m ³ (aerosol and vapor)
Sweden	kortidsvärde (KTV) (ppm)	20 ppm (aerosol and vapor)
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ particulate 52 mg/m ³ vapour
United Kingdom	WEL TWA (ppm)	20 ppm vapour

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

ethanediol, ethylene glycol (107-21-1)

United Kingdom	WEL STEL (mg/m ³)	104 mg/m ³ vapour
United Kingdom	WEL STEL (ppm)	40 ppm vapour
Norway	Grenseverdier (AN) (mg/m ³)	20 mg/m ³ (equal to the standard for nuisance dust-dust) 52 mg/m ³ (Total sum of limit values for both vapor and dust)
Norway	Grenseverdier (Korttidsverdi) (ppm)	20 ppm (Norm is based on the sum calculation for the total gas and particulate form of the substance)
Switzerland	VME (mg/m ³)	26 mg/m ³
Switzerland	VME (ppm)	10 ppm
Switzerland	VLE (mg/m ³)	52 mg/m ³
Switzerland	VLE (ppm)	20 ppm
Canada (Quebec)	PLAFOND (mg/m ³)	127 mg/m ³
Canada (Quebec)	PLAFOND (ppm)	50 ppm
USA - ACGIH	ACGIH Ceiling (mg/m ³)	100 mg/m ³ (aerosol only)
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	125 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	50 ppm

8.2. Exposure controls

Appropriate engineering controls	: Either local exhaust or general room ventilation is usually required.
Personal protective equipment	: Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.
Materials for protective clothing	: Wear suitable protective clothing. Natural fibres (e.g. cotton)
Hand protection	: Wear suitable gloves tested to EN374. Thickness of glove material: > 0.13 mm. Break through time: ≥ 480 min
Eye protection	: Use splash goggles when eye contact due to splashing is possible. DIN EN 166
Respiratory protection	: In case of inadequate ventilation wear respiratory protection. Wear a respirator conforming to EN140 with Type A/P2 filter or better



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: brown.
Odour	: Characteristics.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 260 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.912 g/mL @ 15°C
Solubility	: No data available
Log Pow	: No data available

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

Viscosity, kinematic	: 18.5 mm ² /s @ 100°C
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive. However, formation of explosive air/vapour mixtures are possible.
Oxidising properties	: not oxidizing.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None known under normal conditions of use. No polymerization.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

ethanediol, ethylene glycol (107-21-1)

LD50 oral rat	4700 mg/kg
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

ENOC STRATA CYL 540

Viscosity, kinematic	18.5 mm ² /s @ 100°C
----------------------	---------------------------------

SECTION 12: Ecological information

12.1. Toxicity

ethanediol, ethylene glycol (107-21-1)

LC50 fish 1	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
LC50 fish 2	14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

ethanediol, ethylene glycol (107-21-1)

Log Pow	-1,93
---------	-------

12.4. Mobility in soil

No additional information available

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

12.5. Results of PBT and vPvB assessment

Component	
ethanediol, ethylene glycol (107-21-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Waste disposal according to EC directives 75/442/EEC and 91/689/EEC in the corresponding versions, covering waste and dangerous waste.
Waste treatment methods	: Can be incinerated according to local regulations.
Waste disposal recommendations	: Dispose of this material and its container to hazardous or special waste collection point.
European List of Waste (LoW) code	: 13 02 05* - mineral-based non-chlorinated engine, gear and lubricating oils

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: Not applicable
----------------------------------	------------------

IMDG

Transport hazard class(es) (IMDG)	: Not applicable
-----------------------------------	------------------

IATA

Transport hazard class(es) (IATA)	: Not applicable
-----------------------------------	------------------

ADN

Transport hazard class(es) (ADN)	: Not applicable
----------------------------------	------------------

RID

Transport hazard class(es) (RID)	: Not applicable
----------------------------------	------------------

14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

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

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Other information, restriction and prohibition regulations : Not listed on KECI (Korean Existing Chemicals Inventory). Not listed on KECI (Korea Existing Chemicals Inventory). Not listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances). Not listed on the AICS (Australian Inventory of Chemical Substances). Not listed on the Canadian DSL (Domestic Substances List). Not listed on the Japanese ENCS (Existing & New Chemical Substances) inventory. Not listed on the United States TSCA (Toxic Substances Control Act) inventory.

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 2, hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : Calcium petroleum sulfonate, Phenol, 2,2'-polythiobis[4-C8-30-alkyl derivatives, calcium salts, overbased are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

Other information : It is the user's responsibility to take mentioned precaution measures and ensure that this information is complete and sufficient for the use of this product. Such information is actually to be best of our knowledge and believes accurate as reliable.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4

ENOC STRATA CYL 540

Safety Data Sheet

according to Regulation (EU) 2015/830

Skin Sens. 1	Sensitisation — Skin, Category 1
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H413	May cause long lasting harmful effects to aquatic life
EUH208	Contains . May produce an allergic reaction

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product