

SAFETY DATA SHEET

TermoRens liquid 100

SDS according to Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II-EU

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

Date issued 25.10.2010
Revision date 20.03.2015

1.1. Product identifier

Product name TermoRens liquid 100
Synonyms Termorens væske 100

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

Use of the substance/preparation Chemical cleaning fluid for removal of lime, magnetite, oxide (corrosion), humus, salt and other contamination. The product is used in piping systems, vacuum systems, heat exchangers, or in a cleaning tank. The product has the same effect as acid cleaning on stainless steel. Kills bacteria and Legionella in water systems.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name Termorens Offshore Service AS
Postal address Nedre Kongerød 20
Postcode 3737
City Skien
Country Norway
Tel +47 480 44 139 / +47 913 61 380
Fax +47 35 59 85 43
E-mail post.tros@termorens.no
Website <http://www.tros.as>
Enterprise no. 913375289
Contact person Torgeir Herfindal / Arild Kvalvik

1.4. Emergency telephone number

Emergency telephone Giftinformasjonen (Norway):: +47 22 59 13 00 (24/7)

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to 67/548/EEC or 1999/45/EC Xi; R36/38
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Skin Irrit. 2;H315;Human experience
Eye Irrit. 2;H319;Human experience
CLP Classification, Comments Classified by manufacturer.
Substance / mixture hazardous properties Causes skin irritation. Causes serious eye irritation.

2.2. Label elements

Hazard Pictograms (CLP)



Composition on the label Citric acid:5 - 15 %, Phosphoric acid:< 10 %
Signal word Warning

Hazard statements	H315 Causes skin irritation. H319 Causes serious eye irritation.
Precautionary statements	P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P332 + P313 If skin irritation occurs: Get medical advice/attention. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

Other hazards	Not entered.
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents
Citric acid	CAS no.: 5949-29-1 EC no.: 201-069-1	Xi; R36/38 Skin Irrit. 2;H315; Eye Irrit. 2;H319;	5 - 15 %
Phosphoric acid	CAS no.: 7664-38-2 EC no.: 231-633-2	C; R34 Skin Corr 1B;H314;	< 10 %
Substance comments	Containing max. 4,7% phosphorus. See section 16 for the full text of the R Phrases declared above.		

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothes and rinse skin thoroughly with water. Get medical attention if any discomfort continues. Treat corrosive damages as burns.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Consult a physician.
Ingestion	When swallowing larger amounts drink water or milk. Get medical advice/attention if you feel unwell. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

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

Acute symptoms and effects	Causes skin irritations. Causes serious eye irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Other Information	No data available.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	According to the surrounding fire. Carbon dioxide (CO ₂), water haze, alcoholresistant foam.
Improper extinguishing media	Water jet.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	No specific precautions.
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5.3. Advice for firefighters

Personal protective equipment	Wear fire / flame resistant / retardant clothing. Use fresh air mask and full protective gear when the product is involved in fire.
Other Information	Non-flammable.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures Use personal protective equipment as indicated in section 8. Provide adequate ventilation. Avoid contact with skin or eyes. Eyewash equipment have to be available at the workplace.

Personal protection measures Use personal protective equipment as indicated in section 8.

6.2. Environmental precautions

Environmental precautionary measures Discharge to water: Acid causes acidic water, with risk for death of fishes. Check pH value in waste. Be aware possible water inlet. Inform relevant authorities if product reaches water or sewage systems.

6.3. Methods and material for containment and cleaning up

Cleaning method Stop leak if possible without risk. Fence area to unauthorized persons. Absorb with suitable absorbing agent and transferred to tightly closed containers. Provide labeling.

6.4. Reference to other sections

Other instructions Personal protective equipment: See section 8.
Disposal: See section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling Use personal protective equipment as indicated in section 8. Avoid spilling, skin and eye contact. Remove immediately all contaminated clothing and wash skin.

7.2. Conditions for safe storage, including any incompatibilities

Storage Protect against frost.

7.3. Specific end use(s)

Specific use(s) Not specified.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure limit values

Substance	Identification	Value	TWA Year
Phosphoric acid	CAS no.: 7664-38-2 EC no.: 231-633-2	8-hour TWA: 1 mg/m ³	2001

8.2. Exposure controls

Limitation of exposure on workplace Ensure good ventilation. Ensure good hygiene. Wash contaminated skin. Emergency shower and eyewash equipment have to be available at the workplace. All personal protective equipment have to be CE branded and tested in accordance with relevant CEN standards. The given protective equipment is advised. Risk assessment (actual risk) may result in other requirements.

Safety signs



Respiratory protection

Respiratory protection Normally not necessary. Suitable respiratory protection must be used at high concentrations.

Recommended type of equipment Respirator with filter type E.

Reference to relevant standard NS-EN 14387:2004+A1:2008 Respirators-Gas filters and combined filters, requirements, testing, marking.

Hand protection

Hand protection Nitrile. Neoprene.

Reference to relevant standard NS-EN 374:2003 Protective gloves against chemicals and micro-organisms.

Breakthrough time Penetration time is not known. The specified glove materials is suggested by a review of

the ingredients in section 3.2, and information in glove guides.
Consult your glove manufacturer in the selection of appropriate hand protection.

Eye / face protection

Eye protection Wear approved, protective goggles when working with concentrate.
Reference to relevant standard CEN/CR 13464:1999 Guide to selection, use and maintenance of occupational eye and face protectors.
NS-EN 168:2001: Eye protection - Non-optical test methods.

Skin protection

Skin protection (except hands) Wear suitable protective clothing when necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid.
Colour Tawny.
Odour Negligible.
pH (as supplied) Value: 1,4
Boiling point / boiling range Value: 101 °C
Specific gravity Value: 1,14 g/cm³
Solubility in water 100%

9.2. Other information

Other physical and chemical properties

Physical and chemical properties No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity May react with alkaline materials.

10.2. Chemical stability

Stability The product is stable under normal and intended use.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Data lacking.

10.4. Conditions to avoid

Conditions to avoid See section 10.1 and 10.5.

10.5. Incompatible materials

Materials to avoid Bases, alkalis (inorganic). Sodium nitrite and potassium nitrite.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon Oxides (CO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological Information:

LD50 oral Value: 1530 mg/kg
Animal test species: Rat
LD50 oral Value: 5400 mg/kg
Animal test species: mous
Comments: CAS 5949-29-1
LD50 dermal Value: 2740 mg/kg
Animal test species: Rabbit
Comments: CAS 7664-38-2
LD50 dermal Value: > 2000 mg/kg
Comments: CAS 5949-29-1

Other information regarding health hazards

General Damage depends on the concentration of the product and contact time with the skin.

Potential acute effects

Inhalation	Vapour or aerosol may irritate the upper respiratory tract.
Skin contact	Irritating by prolonged exposure.
Eye contact	Causes serious eye irritation.
Ingestion	Irritation of mucous membranes in the mouth and throat.
Assessment corrosion / irritation classification	Evaluated irritating (experience from manufacturer).

SECTION 12: Ecological information**12.1. Toxicity**

Aquatic, comments	CAS 5949-29-1: Fish: LC50/48 timer 440 mg/l Alga: NOEC (8 d mat (nomilal) Basert 425 mg/l CAS 7664-38-2: LC50: 100-1000mg/l.
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12.2. Persistence and degradability

Persistence and degradability description	Citric acid is biodegradability. Phosphoric acid is inorganic and not degradable.
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12.3. Bioaccumulative potential

Bioaccumulative potential	No bioaccumulation expected.
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12.4. Mobility in soil

Mobility	Soluble.
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12.5. Results of PBT and vPvB assessment

PBT assessment results	Data lacking.
vPvB evaluation results	Data lacking.

12.6. Other adverse effects

Other adverse effects / Remarks	Contains phosphate. Large amount of phosphorus may lead to unwanted algae growth in lakes and rivers.
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SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Specify the appropriate methods of disposal	Washing and diluting in clean water. For large amounts sodium hydroxide is used for neutralization.
Product classified as hazardous waste	No
EWC waste code	EWC: 060104* phosphoricand phosphorous acid
Other Information	The given EWC-code(s) are guidelines only. The end user has to chose the correct code(s) based on the actual use of the product.

SECTION 14: Transport information**14.1. UN number**

Comments	Not dangerous.
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14.2. UN proper shipping name

Comments	Not dangerous.
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14.3. Transport hazard class(es)

Comments	Not dangerous.
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14.4. Packing group

Comments	Not dangerous.
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14.5. Environmental hazards

IMDG Marine pollutant	No
Comments	Not dangerous.

14.6. Special precautions for user

Special safety precautions for user	Not dangerous.
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category	Not relevant.
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Additional information.

Additional information. Not classified as dangerous goods according to ADR, RID, IMDG or IATA.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Legislation and regulations FOR 2002-07-16 nr 1139: Norwegian Regulations for classification and labelling of Chemicals, as amended.
 REACH (Regulation (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006)
 FOR 2004-06-01 nr 930: Norwegian Regulations concerning recycling and treatment of waste, as amended.
 International Transport Regulation: ADR/RID, IMDG, IATA.
 FOR 1998-04-30 nr. 550: Norwegian Regulations concerning Work performed by children and young people, as amended.
 FOR 1993-05-24 nr 1425: Norwegian Regulations concerning use of personal protective equipment at work, as amended.
 Annex VI to Regulation (EC) No 1272/2008 includes lists of harmonised classification and labelling (www.ecb.jrc.ec.europa.eu/classification-labelling/clp/).
 Norwegian Occupational Exposure Limits (www.arbeidstilsynet.no/administrative normer) Micromedex Tomes CPS System
 COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010, amending Regulation (EC) No 1907/2006 REACH.

15.2. Chemical safety assessment

Chemical safety assessment performed No

SECTION 16: Other information**Hazard symbol**

R-phrases R36/38 Irritating to eyes and skin.
 S-phrases S1/2 Keep locked up and out of the reach of children.
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Skin Irrit. 2; H315; Human experience
 Eye Irrit. 2; H319; Human experience

List of relevant R-phrases (under headings 2 and 3). R36/38 Irritating to eyes and skin.
 R34 Causes burns.

List of relevant H-phrases (Section 2 and 3). H315 Causes skin irritation.
 H314 Causes severe skin burns and eye damage.
 H319 Causes serious eye irritation.

Important data sources used to construct the safety data sheet Safety data sheet from manufacturer.

Information which has been added, deleted or revised

Checking quality of information Safety Data Sheet is provided in Norwegian in accordance with applicable regulations.
 Termorens Offshore Service AS is certified acc. NS-EN ISO 9001.

Responsible for safety data sheet Termorens Offshore Service A/S

