

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

- **1.1 Product identifier**
- **Trade name:** STARMARINE CONCENTRATE
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
 No further relevant information available.
- **Application of the substance / the mixture** Cleaning agent/ Cleaner
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 STARMARINE
 IJsvogelstraat 1
 3145XP Maassluis
 The Netherlands
 Tel: +31-(0)10-5925831
 Fax: +31-(0)10-5902995
- **Further information obtainable from:** Safety Department
- **1.4 Emergency telephone number:**
 +31(0)10-5925831 (office hours)
 +31(0)30-2748888 (outside office hours, Nationaal Vergiftigen Informatie Centrum (for medical staff only))

 * **SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

 Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

 Carc. 1B H350 May cause cancer.
 Repr. 1A H360D May damage the unborn child.



GHS09 environment

 Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
 STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

 R61: May cause harm to the unborn child.



Xi; Irritant

R37: Irritating to respiratory system.

(Contd. on page 2)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 1)

**Xi; Sensitising****R43:** May cause sensitisation by skin contact.**N; Dangerous for the environment****R51/53:** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.**R10:** Flammable.**· Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· 2.2 Label elements**· Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms GHS02, GHS07, GHS08, GHS09**· Signal word Danger****· Hazard-determining components of labelling:**

N-methyl-2-pyrrolidone

Alcohol ethoxylate

Terpenes, mixture

2-butoxyethanol

· Hazard statements**H226** Flammable liquid and vapour.**H332** Harmful if inhaled.**H315** Causes skin irritation.**H319** Causes serious eye irritation.**H317** May cause an allergic skin reaction.**H350** May cause cancer.**H360D** May damage the unborn child.**H335** May cause respiratory irritation.**H411** Toxic to aquatic life with long lasting effects.**· Precautionary statements****P210** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**P241** Use explosion-proof electrical/ventilating/lighting/equipment.**P303+P361+P353** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P405** Store locked up.**P501** Dispose of contents/container in accordance with local/regional/national/international regulations.**· 2.3 Other hazards****· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****· 3.2 Chemical characterisation: Mixtures****· Description:** Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 2)

· Dangerous components:		
CAS: 138-86-3 EINECS: 205-341-0	<i>p</i> -mentha-1,8(9)-diene Xi R38; Xi R43; N R50/53 R10 Flam. Liq. 3, H226; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1, H317	10-25%
CAS: 8002-09-3	Terpenes, mixture Xn R65; Xi R36/38; Xi R43; N R51/53 Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	10-25%
CAS: 872-50-4 EINECS: 212-828-1 Reg.nr.: 01-2119472430-46	<i>N</i> -methyl-2-pyrrolidone T R61; Xi R36/37/38 Repr. 1A, H360D; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10-25%
CAS: 68439-46-3 Polymer	Alcohol ethoxylate Xn R22; Xi R41 Eye Dam. 1, H318; Acute Tox. 4, H302	10-25%
CAS: 111-76-2 EINECS: 203-905-0 Reg.nr.: 01-2119475108-36	2-butoxyethanol Xn R20/21/22; Xi R36/38 Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	2.5-10%
CAS: 141-43-5 EINECS: 205-483-3 Reg.nr.: 01-2119486455-28	2-aminoethanol C R34; Xn R20/21/22 R18 Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; STOT SE 3, H335; Aquatic Chronic 3, H412	≤ 2.5%
	phosphoric acid ester of alkylpolyglycol Xn R22-68; Xi R36/38 STOT SE 2, H371; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	≤ 2.5%
CAS: 61790-12-3 EINECS: 263-107-3	Tall Oil Fatty Acid R53 Aquatic Chronic 4, H413	≤ 2.5%
CAS: 27176-87-0 EINECS: 248-289-4 Reg.nr.: 01-2119490234-40	dodecylbenzenesulphonic acid C R34; Xn R22 Skin Corr. 1B, H314; Acute Tox. 4, H302	≤ 2.5%

· **SVHC**872-50-4 | *N*-methyl-2-pyrrolidone· **Additional information:** For the wording of the listed risk phrases refer to section 16.**SECTION 4: First aid measures**· **4.1 Description of first aid measures**· **General information:** Immediately remove any clothing soiled by the product.· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.· **After swallowing:** Do not induce vomiting; call for medical help immediately.· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 4)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 3)

- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Dilute with plenty water.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 5)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 4)

· 8.1 Control parameters**· Ingredients with limit values that require monitoring at the workplace:****872-50-4 N-methyl-2-pyrrolidone**

WEL	Short-term value: 80 mg/m ³ , 20 ppm Long-term value: 40 mg/m ³ , 10 ppm Sk
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111-76-2 2-butoxyethanol

WEL	Short-term value: 246 mg/m ³ , 50 ppm Long-term value: 123 mg/m ³ , 25 ppm Sk, BMGV
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141-43-5 2-aminoethanol

WEL	Short-term value: 7.6 mg/m ³ , 3 ppm Long-term value: 2.5 mg/m ³ , 1 ppm Sk
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· DNELs**872-50-4 N-methyl-2-pyrrolidone**

Oral	Acute - systemic effects	26 mg/kg bw/day (consumer)
	Long-term - systemic effects	6.3 mg/kg bw/day (consumer)
Dermal	Acute - systemic effects	40 mg/kg bw/day (consumer) 208 mg/kg bw/day (workers)
	Long term - systemic effects	11.9 mg/kg bw/day (consumer) 19.8 mg/kg bw/day (workers)
	Inhalative	Acute - systemic effects
	Long-term - systemic effects	12.5 mg/m ³ (consumer) 40 mg/m ³ (workers)

· PNECs**872-50-4 N-methyl-2-pyrrolidone**

Aquatic compartment	0.25 mg/l (fresh water) 5 mg/l (intermittent release water) 0.025 mg/l (marine water) 0.805 mg/kg sed dw (sediment fresh water) 0.138 mg/kg sed dw (soil)
Oral secondary poisoning	1.67 mg/kg food (-)
Sewage treatment plant	10 mg/L (-)

· Ingredients with biological limit values:**111-76-2 2-butoxyethanol**

BMGV	240 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: butoxyacetic acid
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· Additional information: The lists valid during the making were used as basis.**· 8.2 Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Do not inhale gases / fumes / aerosols.

(Contd. on page 6)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 5)

- **Respiratory protection:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Not necessary if room is well-ventilated.*

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

EN374

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

EN 166

- **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Colour:	According to product specification
Odour:	Characteristic
Odour threshold:	Not determined.

- **pH-value at 20 °C:** 9

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	101 °C

- **Flash point:** 33 °C

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 240 °C

- **Decomposition temperature:** Not determined.

- **Self-igniting:** Product is not selfigniting.

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 6)

· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	0.7 Vol %
Upper:	9.5 Vol %
· Vapour pressure at 20 °C:	2.1 hPa
· Density at 20 °C:	0.94 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

872-50-4 N-methyl-2-pyrrolidone

Oral	LD50	4150 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50/ 4 h	5.1 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitisation:** Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 1B, Repr. 1A

GB

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 7)

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

872-50-4 N-methyl-2-pyrrolidone

Biodegradability	easily (-)
EC 50 / 24 h	>1000 mg/l (daphnia)
LC50/ 96 h	832-1072 mg/l (fish)

68439-46-3 Alcohol ethoxylate

EC50/ 72 h	>1 mg/l (fish)
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· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· Ecotoxicological effects:

· **Remark:** Toxic for fish

· Additional ecological information:

· General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number

· **ADR, IMDG, IATA** UN1993

· 14.2 UN proper shipping name

· **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (DIPENTENE), ENVIRONMENTALLY HAZARDOUS

· **IMDG** FLAMMABLE LIQUID, N.O.S. (DIPENTENE, Terpenes, mixture), MARINE POLLUTANT

· **IATA** FLAMMABLE LIQUID, N.O.S. (DIPENTENE)

(Contd. on page 9)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 8)

· 14.3 Transport hazard class(es)

· ADR



· Class 3 (FC) Flammable liquids.
· Label 3

· IMDG



· Class 3 Flammable liquids.
· Label 3

· IATA



· Class 3 Flammable liquids.
· Label 3

· 14.4 Packing group

· ADR, IMDG, IATA III

· 14.5 Environmental hazards: Product contains environmentally hazardous substances:
p-mentha-1,8(9)-diene

· Marine pollutant: Yes
Symbol (fish and tree)

· Special marking (ADR): Symbol (fish and tree)

· 14.6 Special precautions for user Warning: Flammable liquids.

· Danger code (Kemler): 38

· EMS Number: F-E,S-C

· Segregation groups Alkalis

· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 5L
· Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· Transport category 3

· Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ) 5L
· Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 10)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 9)

· UN "Model Regulation": UN1993, FLAMMABLE LIQUID, N.O.S. (DIPENTENE), ENVIRONMENTALLY HAZARDOUS, 3, III

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
- Hazard pictograms GHS02, GHS07, GHS08, GHS09
- Signal word Danger

- Hazard-determining components of labelling:

N-methyl-2-pyrrolidone
Alcohol ethoxylate
Terpenes, mixture
2-butoxyethanol

- Hazard statements

H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H360D May damage the unborn child.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.

- Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- National regulations:

- Technical instructions (air):

Class	Share in %
NK	50-100

- Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

- Other regulations, limitations and prohibitive regulations

- Substances of very high concern (SVHC) according to REACH, Article 57

872-50-4 N-methyl-2-pyrrolidone

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases

H226 Flammable liquid and vapour.

(Contd. on page 11)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 10)

- H302 Harmful if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H312 Harmful in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H360D May damage the unborn child.
 H371 May cause damage to organs.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.
 H413 May cause long lasting harmful effects to aquatic life.
- R10 Flammable.
 R18 In use, may form flammable/explosive vapour-air mixture.
 R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
 R22 Harmful if swallowed.
 R34 Causes burns.
 R36/37/38 Irritating to eyes, respiratory system and skin.
 R36/38 Irritating to eyes and skin.
 R38 Irritating to skin.
 R41 Risk of serious damage to eyes.
 R43 May cause sensitisation by skin contact.
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R53 May cause long-term adverse effects in the aquatic environment.
 R61 May cause harm to the unborn child.
 R65 Harmful: may cause lung damage if swallowed.
 R68 Possible risk of irreversible effects.

· **Department issuing MSDS:** Safety Department

· **Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organisation
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
 Carc. 1B: Carcinogenicity, Hazard Category 1B
 Repr. 1A: Reproductive toxicity, Hazard Category 1A
 STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 Asp. Tox. 1: Aspiration hazard, Hazard Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

(Contd. on page 12)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 08.01.2015

Version number 3

Revision: 08.01.2015

Trade name: STARMARINE CONCENTRATE

(Contd. of page 11)

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4

· *** Data compared to the previous version altered.**

GB