

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : OBWT 3 ORGANIC
 Product type : Liquid.
 Use of the substance/mixture : Additive
 waterconditioning agent

Details of the supplier of the safety data sheet

Company:
 Unimarine Services Inc.
 60 Market Square,
 PO Box 364, Belize City

Contact your nearest Unimarine sales office

Representative office in Greece:

Email: info@unimarine.gr

Tel: +30 210 9957279

Emergency Telephone Number

Emergency Telephone: Only to be used in case of incident

Tel: 00357 25 662068

2. HAZARDS IDENTIFICATION

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : C; R35

Human health hazards : Causes severe burns.

See Section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
potassium hydroxide	1310-58-3	5-25	215-181-3	Xn; R22 [1] [2] C; R35
See Section 16 for the full text of the R-phrases declared above.				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

First-aid measures

Inhalation : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4. FIRST AID MEASURES

- Skin contact : Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See Section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable : None known.
- Special exposure hazards : In a fire or if heated, a pressure increase will occur and the container may burst.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
metal oxide/oxides
- Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

- Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

- Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

- Recommended : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
potassium hydroxide	EH40-WEL (United Kingdom (UK), 9/2006). WEL 15 min limit: 2 mg/m ³ 15 minute(s). Form: All forms

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

Occupational exposure controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection :
 Wear suitable gloves tested to EN374. The quality of the chemical-resistant protective gloves must be chosen as a function of the specific workplace concentrations and quantity of hazardous substances.

Eye protection :
 Wear safety glasses with side protection in accordance with EN 166. or face shield (EN 166) .

Skin protection :
 Wear alkali-resistant protective clothing. Wear protective shoes.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance

Physical state : Liquid.
 Colour : Brown.

Important health, safety and environmental information

pH : 12,5
 Boiling point : 110°C (230°F)
 Melting point : -5°C (23°F)
 Flash point : Closed cup: Not applicable.
 Vapour pressure : 2,3 kPa (17,25 mm Hg)
 Density : 1,16 g/cm³ [20°C (68°F)]
 Solubility : Easily soluble in the following materials: cold water and hot water.
 Auto-ignition temperature : Not applicable.
 Acid/alkali reserve :
 (g NaOH(equivalent)/100 g)

10. STABILITY AND REACTIVITY

Stability : The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions to avoid : No specific data.

Materials to avoid : Reactive or incompatible with the following materials:
acids

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Potential acute health effects

- Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
- Ingestion : May cause burns to mouth, throat and stomach.
- Skin contact : Severely corrosive to the skin. Causes severe burns.
- Eye contact : Severely corrosive to the eyes. Causes severe burns.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
potassium hydroxide	LD50 Oral	Rat	273 mg/kg	-

Conclusion/Summary : Not available.

Potential chronic health effectsChronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

- Chronic effects : No known significant effects or critical hazards.
- Carcinogenicity : No known significant effects or critical hazards.
- Mutagenicity : No known significant effects or critical hazards.
- Teratogenicity : No known significant effects or critical hazards.
- Developmental effects : No known significant effects or critical hazards.
- Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation : No specific data.
- Ingestion : Adverse symptoms may include the following:
stomach pains
- Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Eyes : Adverse symptoms may include the following:
pain
watering
redness
- Target organs : Contains material which causes damage to the following organs: lungs, mucous membranes, upper respiratory tract, skin, eye, lens or cornea.

12. ECOLOGICAL INFORMATION

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Other ecological informationBiodegradability

Conclusion/Summary : Not available.

Bioaccumulative potential

<u>Product/ingredient name</u>	<u>LogP_{ow}</u>	<u>BCF</u>	<u>Potential</u>
Boiler Treat Combi	-	-	low

Other adverse effects : No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

14. TRANSPORT INFORMATION

International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	UN1814	POTASSIUM HYDROXIDE SOLUTION mixture	8II			<u>Hazard identification number</u> 80 <u>Limited quantity</u> LQ22 <u>CEPIC Tremcard</u> 80S1814
ADN/ADNR Class	UN1814	POTASSIUM HYDROXIDE SOLUTION mixture	8	II		-
IMDG Class	UN1814	POTASSIUM HYDROXIDE SOLUTION mixture	8II			<u>Emergency schedules (EmS)</u> F-A, S-B
IATA Class	UN1814	Potassium hydroxide solution mixture	8	II		<u>Passenger and Cargo Aircraft</u> Quantity limitation: 1 L <u>Cargo Aircraft Only</u> Quantity limitation: 30 L Packaging instructions: 813 <u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 0.5 L Packaging instructions: Y809

PG* : Packing group

15. REGULATORY INFORMATION

EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Hazard symbol or symbols :



Corrosive

Risk phrases : R35- Causes severe burns.

Safety phrases : S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains : potassium hydroxide

Product use : Industrial applications.

Europe inventory : Europe inventory: Not determined.

No Chemical Safety Assessment has been done

16. OTHER INFORMATION

The information contained herein relates only to the specific material identified. Unimarine Services Inc. Believes that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the accuracy, reliability, or completeness of the information. Unimarine Services Inc. urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application