GCCM

GOLD COAST CITY MARINA
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AUSTRALIA'S MOST COMPREHENSIVE
MARINA & SHIPYARD

BEST PRACTICE GUIDELINES
-REDUCING WATER POLLUTION-

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Best Practice Guideline
-Reducing Water Pollution-

Introduction

This guide is designed to assist vessel owners, operators and crew on the best practices in reducing and eliminating the risk of water pollution and environmental harm.

Water pollution can stem from a variety of sources.

Some common contributors are:

- Dust and debris from maintenance activities,
- Bilge pumps discharging oily water,
- Boat washing releasing detergents and chemicals,
- Illegal sewage dumping introducing harmful pathogens,
- Fuel operations causing oil spills,
- General waste like plastics and litter entering the water system.

Each of these sources can have significant impacts on marine life and water quality.

TABLE OF CONTENTS

Practices

Encapsulate	Use of absorbent materials	Absorbent Pads when refueling
When conducting works such as sanding or spraying, where dust and debris are released. Ensure tents are **sealed**, there is **ventilation**, that materials are **removed and collected** accordingly. **Sweep Marine** & **Marine Scaffolding** based at GCCM can assist on site.	**Absorbent pads/pillows** are effective in engine bays and bilges to soak up any oil/fuel contaminates. **Regular vessel maintenance checks** will eliminate bilge pumps engaging and dirty bilge water entering the waterway, which is considered illegal dumping. Products available onsite at **Australian Boating Supplies**.	**Absorbent pads when refueling** vessels is effective. Simply hold the pad over the nozzle when transporting to the filling point or near the breather to avoid blow back. Never overflow the fuel tanks. Always monitor during fueling operations. They can be easily stored on the boat and products available onsite at **Australian Boating Supplies.**

Use the right products	Don't dump	Capture and treat
When washing down your vessel, actively use water and a little bit of elbow grease. If you are using products on your boat that have a risk of entering the waterways, read the Safety Data Sheet to know the impacts. Below we outline what to look for.	Dumping anything into the water is illegal. Sewerage should not be released into the waterway, use pump out facilities. **Sweep Marine** offer pump out services for all waste removal. **DO NOT** use a detergent or similar to disperse fuel/oil when it enters the water. Actively try and soak up fuel using absorbent materials.	Washing boats can be a challenge, but where possible, capture run off water in vessel drainage systems and remove accordingly. The use of mops/microfiber cloths can remove residue. Major detailing of vessels ideally to be completed on hardstand where water run off can go to drains and pits that undergo treatment.

Safety Data Sheets - What to look for

Before using products that may enter the waterways, review the products Safety Data Sheet (SDS).

Bio-Degradable

Bio-degradable can be defined as having the ability to break down naturally into our ecosystem. However, the length of time is not defined and some product claims are not sustainable.

Check the SDS and refer to section 12 - Ecological information. Look for information as shown in the examples below which indicates the ingredients will break down effectively and will not accumulate or cause long-term pollution.

Section 12 - Ecological Information
Ecotoxicity No data **Persistence/degradability** This product is readily degradable and is not expected to persist in the environment

12. ECOLOGICAL INFORMATION	
Environment	This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Not expected to bioaccomulate.
Persistence/ Degradability	This product is readily biodegradable.

Australian Standards

Look for references to Australian standards in the SDS such as AS4351 - Biodegradability - organic compounds in an aqueous medium.

Persistence and degradability		
Ingredient	**Persistence: Water/Soil**	**Persistance: Air**
Cocamide monoethanolamide	Readily biodegradable. According to the data on the components. The product is considered to be rapidly degradable in the environment	Not available
Sodium dodecylbenzenesulphonate	Readily biodegradable - according to Australian Standard AS4351.	Not Available

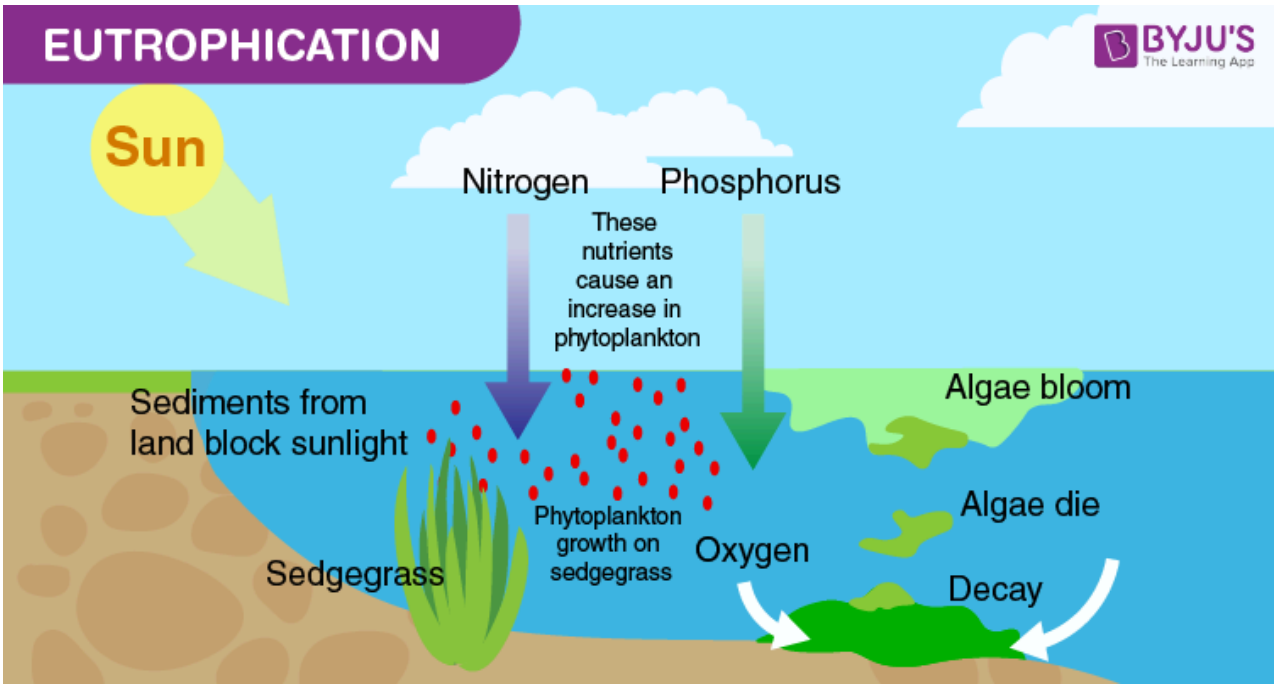
Phosphate Free

Phosphates are chemical compounds commonly used in cleaning products. By removing phosphates, you are removing the harshness that impacts the environment.

Phosphates (when in a product) can lead to:

- Eutrophication: growth of algae/plants that can deplete oxygen and lead to dead zones where aquatic life can not survive.

- Water pollution with high-level phosphates leads to increased nutrient pollution and negatively affects the water quality and ecosystem.



Reference: What is Eutrophication? https://byjus.com/chemistry/eutrophication/

Harmful Chemicals - Solvents & Ammonia

The introduction of solvents and ammonia chemicals into aquatic environments can have severe and far-reaching impacts on water quality and ecosystem health.

Solvents can be toxic to aquatic life leading to disrupted reproduction, growth, and behavior in fish and invertebrates.

Ammonia rapidly elevates toxicity levels, resulting in oxygen depletion and promoting algae blooms.

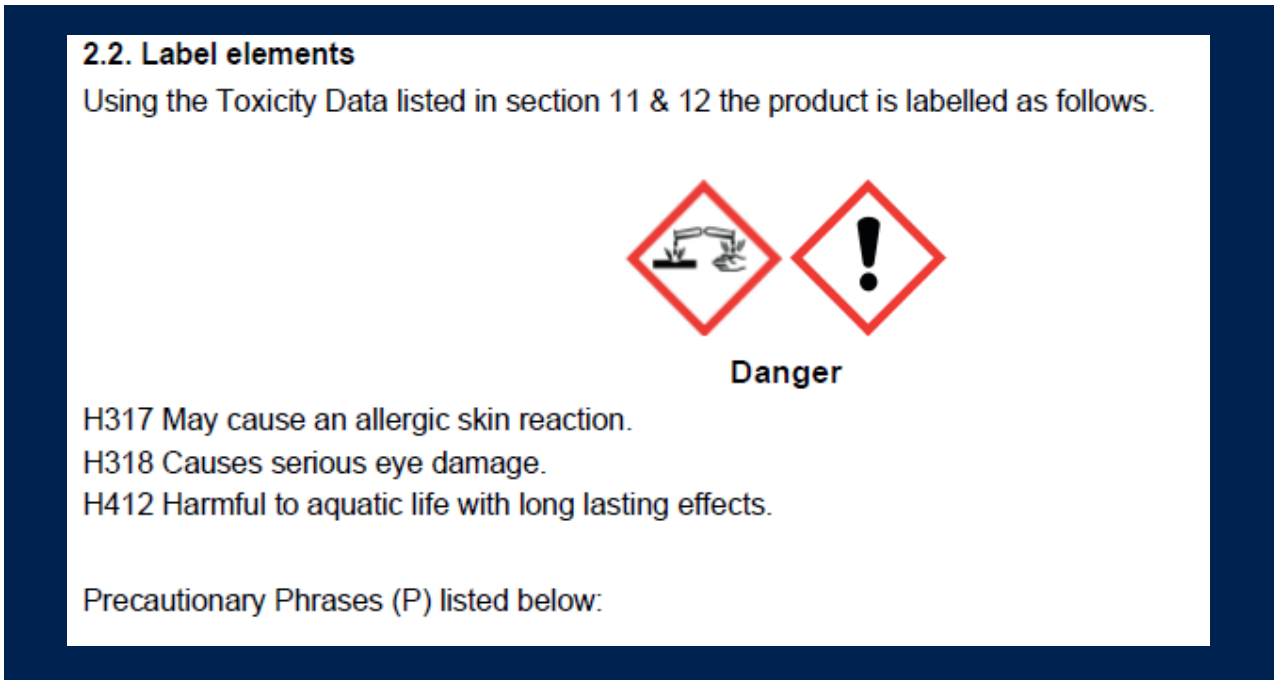
The combined effects of these chemicals can destabilize aquatic ecosystems,, harm food chains, and pose risks to human health through contaminated water supplies.

Looking for information on chemicals? Refer to these three sections in the SDS.

Section 3: Composition/Information on Ingredients - This section lists the chemical ingredients of the product, including any ammonia or solvents.

Section 2: Hazard Identification - This section provides information on specific hazards associated with the presence of ammonia or solvents.

Section 9: Physical & Chemical Properties - provides information about the product's characteristics, which can indicate the presence of solvents.



2.2. Label elements

Using the Toxicity Data listed in section 11 & 12 the product is labelled as follows.

Danger

H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Phrases (P) listed below:

Neutral pH

A pH of 7 is considered a neutral composition. It can mean gentle on surfaces, prevents corrosion, is safer to use on several materials, is safer for users including irritation and vapours. It is eco-friendly, minimising harm if it is highly acidic or highly alkaline.

pH numbers that are higher or lower than 7 could indicate if the product is acidic or alkaline.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	OPAQUE BLUE VISCOUS LIQUID	**Solubility (Water)**	SOLUBLE
Odour	NO FRAGRANCE	**Specific Gravity**	0.98 - 1.02
Ph	7.0 – 8.5	**Volatiles**	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	**Flammability**	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	**Flash Point**	NOT RELEVANT
Boiling Point	100°C (Approximately)	**Upper Explosion Limit**	NOT RELEVANT
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE		

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

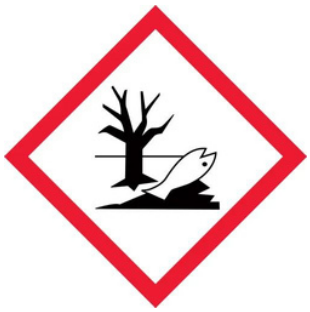
Physical State	Viscous liquid	Colour	Yellow
Odour	characteristic odour	Specific Gravity	1.02 – 1.04 @ 25 °C
Boiling Point	Approximately 100 °C	Freezing Point	Approximately 0 °C
Vapour Pressure	Not available	Vapour Density	Not available
Flash Point	Not flammable	Flammable Limits	none
Water Solubility	Miscible in all proportions	pH	7.5 – 8.5 neat
Volatile Organic Compounds (VOC)	0 % v/v	Coefficient of Water/Oil Distribution	Not available
Viscosity	Not available	Odour Threshold	Not available
Evaporation Rate	Not available	Per Cent Volatile	Ca 85 % v/v

Section 9 - Physical and Chemical Properties:

Physical Description:	Blue Liquid	**Water Solubility:**	Miscible
Odour:	Unfragranced	**pH:**	10.5 – 11.5
Boiling Point:	No data	**Flash Pt.**	No data
Freezing/Melting Point:	No data	**Volatility:**	No data
Volatiles:	No data	**Odour Threshold:**	No data
Vapour Pressure:	No data.	**Evaporation Rate:**	No data
Vapour Density:	No data	**Coeff Oil/water Distribution:**	No data
Specific Gravity:	~1.05	**Autoignition temp:**	No data

Globally Harmonized System (GHS) of Classification and Labelling of Chemicals

This GHS sign indicates the existence of chemicals posing a threat to aquatic life and the general environment like Carcinogens, Anthrax, and Asbestos.
Hazard is represented by an eco-hazard environment pictogram depicting a deceased fish and tree.



SECTION 12. ECOLOGICAL INFORMATION		
12.1	**Toxicity:**	Environmental: No information available. Physical: No information available. CAS# 34590-94-8: Dipropylene Glycol Monomethyl Ether: Effective concentration to 50% of test organisms., Water Flea (Ceriodaphnia dubia), neonate, 5.650 MG/L, 48 H, Intoxication,.
12.2	**Persistence and Degradability:**	No data available.
12.3	**Bioaccumulative Potential:**	No data available.
12.4	**Mobility in Soil:**	No data available.
12.5	**Results of PBT and vPvB assessment:**	No data available.
12.6	**Other adverse effects:**	No data available.

Customer Environmental Tips

To help prevent pollution and protect GCCM's environment, we ask you follow this advice:

- Ensure all litter and waste from your boat is collected and either recycled or disposed of in the dedicated bins provided. Strictly no fish waste to be disposed of in waste bins at GCCM.
- Please do not feed the fish or the birds in the marina.
- Use absorbent pillows in bilges to reduce oily water discharges from bilge pumps. Replace and monitor regularly.
- Be conscious of noise - loud music, revving of engines and other activities can upset your fellow boaties.
- Ensure waste water from maintenance work does not fall or drain into the storm water system or the water.
- Ensure activities such as sanding, grinding, high pressure cleaning and painting do not pollute the water, ground or air with particles, dust, fumes or odours. Encapsulate.
- Ensure chemicals such as fuels, oils, cleaners and paints are correctly handled to prevent spills and pollution of the ground and water.
- Ensure oil drip trays are used whenever you are working on machinery which is not located inboard your vessel.
- Fuel to be stored in an approved container only.
- Excess fuel must not be stored above deck or outside your vessel. All fuel not correctly stored must be removed from site.
- Immediately notify Marina Management if you become aware of any activity which threatens or harms the environment.
- Keep wash to a minimum to minimise wave action to boats on the docks and not disrupt the shoreline. The speed in the marina is 4 knots, no wash. Outside the marina is 6 knots, no wash.

References

- MSQ Marine Pollution Brochure:
  - https://www.msq.qld.gov.au/marinepollution/marine-pollution-brochure
- Clean Boaties Fact Booklet
  - https://www.marinas.net.au/documents/version/1942
- International Organisation for Standaraisation (ISO)
  - https://www.iso.org/home.html
- GCCM welcome guide
  - https://www.gccm.com.au/visitors-guide/
- What is Eutrophication?
  - https://byjus.com/chemistry/eutrophication/