QED Bioscience Inc.
Surf's Up® Surfactant Kit
Surfactant No. 12 Pluronic® L64

NOTE: Chemicals in the Surf's Up® Surfactant Kit are provided as 10% solutions. The following information pertains to the chemicals in an undissolved/undiluted state.

1. PRODUCT

Trade Name	**Pluronic ® L64**
Product Name	Poly(oxyethylene-co-oxypropylene) block copolymer

2. COMPOSITION

Synonyms	Synperonic® PE/L64, Poly(ethylene glycol)-block-poly(propylene glycol)-block-poly(ethylene glycol) Poly(propylene glycol)-block-poly(ethylene glycol)-block-poly(propylene glycol)

Ingredient Name	CAS Number
Polyethylene glycol, propoxylated	9003-11-6

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

No known OSHA hazards

HAZARD RATINGS	HMIS	NFPA
Health	1	1
Flammability	0	0
Reactivity	0	0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

Inhalation Move victim to fresh air. If symptoms persist, seek medical attention.

Skin Immediately flush skin with large amounts of soap and water. If irritation persists, seek medical attention.

Eyes Immediately flush eyes with water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.

Ingestion Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention if necessary.

5. FIRE FIGHTING MEASURES

Extinguishing Media Dry chemical, alcohol-resistant foam, carbon dioxide, water spray.

Fire Fighting Equipment/Instructions Wear self-contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products: Carbon oxides

6. ACCIDENTAL RELEASE MEASURES

Personal protection Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Avoid breathing dust.

Environmental precautions Do not let product enter drains.

Containment and clean-up Perform clean-up without creating dust. Keep in suitable closed container for disposal.

7. HANDLING AND STORAGE

Handling Procedures Wash and dry hands thoroughly after handling. Avoid formation of dust or aerosols. Ensure adequate exhaust ventilation. As with all chemicals, good industrial hygiene practices should be followed when handling this material.
Storage Procedures Keep container tightly sealed in a dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection
For nuisance exposures use type P95 (US) or P1 (EU EN 143) particle respirator. For higher level protection, use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Wear impervious gloves. Use proper glove removal technique (without touching glove's outer surface) to avoid contact with skin. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands thoroughly.

Eye protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection
Wear impervious clothing that is appropriate for the amount and concentration of the substance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Flash Point	No data available
Melting/freezing point	No data available
Boiling point	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor pressure	No data available
pH Value	6-7
Water solubility	No data available
Evaporation rate	No data available
Density	1.05g/ml at 20^{o}C (68^{o}F)

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Incompatibility	May react with strong oxidizing agents.

Hazardous Decomposition May yield carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral LD50 – rat – 9,380mg/kg
Oral LD50 – mouse – 15,000mg/kg

Inhalation LC50 – No data available

Dermal LD50 – rabbit – 20,000mg/kg

Skin corrosion/irritation
Skin – rabbit – mild skin irritation – 24h

Eye damage/eye irritation
Eyes – rabbit – mild eye irritation – 24hr

Respiratory or skin sensitization
Rabbit – did not cause sensitization

Germ cell mutagenicity
Mutagenic effects on bacterial or mammalian cell cultures were not detected.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probably, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

Specific target organ toxicity – single exposure
No data available

Specific target organ toxicity – repeated exposure
No data available

Aspiration hazard
No data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and symptoms of exposure
Effects due to ingestion may include diarrhea, weakness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Toxicity to fish
LC50 – fish - >10,000mg/l – 96h

Persistence and degradability
No data available

Bioaccumulative potential
No data available

To the best of our knowledge, the ecotoxicity properties have not been thoroughly investigated.

13. DISPOSAL CONSIDERATIONS

Treatment, storage, transportaiton and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Compliance with applicable laws is the responsibility of the user.

14. TRANSPORT INFORMATION

DOT(US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
No known OSHA hazards

DSL Status
All components of this product are on the Canadian DSL list.

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (DeMinimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
No SARA hazards

Massachusetts Right to Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components

	CAS No.
Polyethylene glycol, propoxylated	9003-11-6

New Jersey Right to Know Components

	CAS No.
Polyethylene glycol, propoxylated	9003-11-6

California Prop. 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. QED Bioscience Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.