

QED Bioscience Inc.
Surf's Up® Surfactant Kit
Surfactant No. 7 Cremophor® EL

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	Cremophor® EL
Product Name	Castor oil, polyoxyethylene ether

2. COMPOSITION

Ingredient Name	CAS Number
Castor oil, polyoxyethylene ether	61791-12-6

3. HAZARDS IDENTIFICATION

OSHA Hazards

No known OSHA hazards
Not a dangerous substance according to GHS.

HAZARD RATINGS	HMIS	NFPA
Health	0	0
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

Eyes Immediately flush eyes with water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.
Skin Immediately flush skin with large amounts of soap and water. If irritation persists, seek medical attention.
Inhalation Move victim to fresh air. If symptoms persist, seek medical attention.
Ingestion Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE FIGHTING MEASURES

Extinguishing Media Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Fire Fighting Equipment/Instructions Wear self-contained breathing apparatus for fire fighting if necessary.
Hazardous combustion products Hazardous decomposition products formed under fire conditions: carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid breathing vapors, mist, or gas.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and clean-up

Keep in suitable closed containers for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling**

Normal measures for preventive fire protection.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal Protective Equipment**Respiratory protection**

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handles with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

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

Skin and body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid, clear
Color	light yellow

Safety data

pH	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Autoignition temperature	No data available
Lower explosion limit	No data available

Upper explosion limit	No data available
Vapor pressure	No data available
Density	1.05g/cm ³
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Relative vapor density	No data available
Odor	No data available
Odor threshold	No data available
Evaporation rate	No data available

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under recommended storage conditions.

Incompatibility

No data available

Conditions to avoid

No data available

Materials to avoid

Strong oxidizing agents

Hazardous Decomposition

Hazardous decomposition products formed under fire conditions: carbon oxides.
Other decomposition products: no data available.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral KD50 – rat - >5,000mg/kg

Inhalation LC50

No adverse effect has been observed in acute toxicity tests.

Dermal LD50

LD50 – rat - >5,000mg/kg

Other information on acute toxicity: no data available.

Skin corrosion/irritation

Skin – rabbit – no skin irritation

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No sensitization on laboratory animals.

Germ cell mutagenicity

No mutagenic effects on bacterial or mammalian cell cultures.

Carcinogenicity

Animal testing did not show any carcinogenic effects.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, 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

Animal testing did not show any effects on fertility.

Teratogenicity

Animal testing did not show any teratogenic effects.

Specific target organ toxicity – single exposure (Globally Harmonized System)

No data available.

Specific target organ toxicity – repeated exposure (Globally Harmonized System)

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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available.

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 – *Leuciscus idue* (Golden orfe) – 448mg/l – 48h
Method: DIN 38412

Toxicity to daphnia EC50 – *Daphnia magna* (Water flea) – 100mg/l – 48h
and other aquatic Method: OECD Test Guideline 202
invertebrates.

Toxicity to algae EC50 – *desmodesmus subspicatus* (green algae) - >93mg/l –
72h
Method: OECD Test Guideline 201

Persistence and degradability

Biodegradability aerobic
Result: 90-100% biodegradable

Method: OECD Test Guideline 302

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

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.

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 (De Minimis) 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

Castor oil, ethoxylated CAS No. 61791-12-6

New Jersey Right to Know Components

Castor oil, ethoxylated CAS No. 61791-12-6

California Prop. 65 Components

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

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.

