



# Material Safety Data Sheet

Product Name: Fyrquel 220.

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Supplier Name** TRU-BLU OIL AUSTRALIA PTY LTD  
**Address** 6 Dunlop Court, Bayswater, Victoria, AUSTRALIA, 3153  
**Telephone** (03) 9720 4400  
**Fax** (03) 9720 5821  
**Emergency** 0412 609 722  
**Email** technical@trubluoil.com.au  
**Web Site** <http://www.trubluoil.com.au/>

**Chemical name** Butylated triphenyl phosphate ester based mixture  
**Chemical family** Aryl phosphate  
**Type of product and use** Fire-resistant hydraulic fluid

**SDS Date** 7<sup>th</sup> March 2016

## 2. HAZARDS IDENTIFICATION

**GHS classification** Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects



**Hazard statements** H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements** P273 - Avoid release to the environment  
P391 - Collect spillage  
P501 - Dispose of contents/container in accordance with national and international regulations

**NFPA Ratings (Scale 0-4)** Health = 1, Fire = 1, Reactivity = 0

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

Components	Weight %	Index No.	EC No.	EU Classification
t-Butylphenyl diphenyl phosphate 56803-37-3	30 - 35		260-391-0	None
Bis(t-butylphenyl)phenyl phosphate 65652-41-7	30 - 35		265-859-8	None
Tri(t-butylphenyl) phosphate 78-33-1	10 - 15		201-106-1	None

Product Name: **Fyrquel 220**

Triphenyl phosphate 115-86-6	< 25		204-112-2	Aquatic Acute 1, H400 Aquatic Chronic 2, H411 (In accordance with CLP 1272/2008)  N;R50/53 (In accordance with DSD 67/548/EEC)
---------------------------------	------	--	-----------	--

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.
<b>Skin contact</b>	Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before reuse. Get medical attention if irritation persists.
<b>Inhalation</b>	In case of mist inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
<b>Ingestion</b>	If swallowed, wash mouth thoroughly with plenty of water. Get medical attention immediately. ----- NOTE: Never give an unconscious person anything to drink -----

#### Most important symptoms and effects, acute or delayed

None known.

**Notes to the physician** Treat symptomatically and supportively. No specific antidote.

#### 5. FIRE FIGHTING MEASURES

<b>Suitable extinguishing media</b>	Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.
<b>Unusual fire and explosion hazards</b>	When heated to decomposition, may release poisonous and corrosive fumes of carbon dioxide, carbon monoxide and phosphorus oxides. The material is not sensitive to ignition from static discharge.
<b>Fire fighting procedure</b>	Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA). Contain runoff to prevent entry into water or drainage systems.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Wear appropriate safety clothing and eye/face protection (see Section 8).
<b>Methods for cleaning up</b>	Soak up with sand or other suitable absorbent and dispose of as solid waste. Collect in suitable and properly labelled containers. Ventilate area and wash spill site after material pickup is complete.
<b>Environmental precautions</b>	Prevent product from entering drains, ditches and rivers.

Product Name: **Fyrquel 220**

## 7. STORAGE AND HANDLING

<b>Handling</b>	Avoid bodily contact. Keep containers tightly closed.
<b>Storage</b>	Store in a dry, cool, well-ventilated area. away from incompatible materials (see "materials to avoid"). Maximum recommended storage temperature of 65°C (149°F). Store above 4.4°C (40° F) for improved pumping rates. Temperatures between 27 - 37.8°C (80 - 100°F) provide good flow rates.

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

### Exposure Limits:

Components	ACGIH-TLV Data	OSHA (PEL) Data
t-Butylphenyl diphenyl phosphate 56803-37-3	Not determined	Not determined
Bis(t-butylphenyl)phenyl phosphate 65652-41-7	Not determined	Not determined
Tri(t-butylphenyl) phosphate 78-33-1	Not determined	Not determined
Triphenyl phosphate 115-86-6	3 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>

**Ventilation requirements** Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

### Personal protective equipment:

- **Respiratory protection** Not normally required  
P-100 Organic Acid Gas Canisters or Cartridges if exposure is not high.  
Supplied Air Respirator if high concentration of exposure.
- **Hand protection** Nitrile or latex gloves
- **Eye protection** Chemical safety goggles
- **Skin and body protection** Body covering clothes and boots.

**Hygiene measures** Do not eat, smoke or drink where material is handled, processed or stored. Wash hands thoroughly after handling and before eating or smoking. Safety shower and eye bath should be provided.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Yellowish liquid
<b>Odor</b>	Slight
<b>Melting point/range</b>	Not determined
<b>Boiling point/range</b>	>400°C
<b>Pour point</b>	-17.77°C (0 °F)
<b>Flash point</b>	246°C (475°F) (closed cup)
<b>Flammable/Explosion limits</b>	Not flammable/Not explosive
<b>Vapor pressure</b>	1.08x10 <sup>(-3)</sup> Pa (20°C)
<b>Density</b>	1.13 - 1.17 g/cm <sup>3</sup> (20°C)
<b>Solubility:</b>	
- <b>Solubility in water</b>	< 0.1 g/100 ml
<b>Partition coefficient (n-octanol/water)</b>	Log Kow - 4.85
<b>Auto-ignition temperature</b>	Not self-ignitable
<b>Viscosity</b>	220 SUS @ 38°C (100°F)
<b>Ignition temperature</b>	554.44°C (1030°F)

---

**10. STABILITY AND REACTIVITY**

---

<b>Chemical Stability</b>	Stable under recommended conditions of storage.
<b>Conditions to Avoid</b>	Exposure to moisture.
<b>Possibility of Hazardous Reactions</b>	Not Expected to Occur
<b>Material to Avoid</b>	Acids (eg. nitric acid), Alkalis (eg. hydroxides).
<b>Hazardous Decomposition Products</b>	Phosphorus oxides, Carbon dioxide and carbon monoxide

---

**11. TOXICOLOGICAL INFORMATION**

---

**Note:** *Toxicological data have not been determined specifically for this product. Information given is based on data on the components and the toxicology of similar products.*

**Acute toxicity:**

- Rat oral LD50	> 5000 mg/kg
- Rabbit dermal LD50	> 2000 mg/kg
- Rat inhalation LC50	> 0.4 mg/l
- Dermal irritation (rabbit)	Not irritant.
- Eye irritation (rabbit)	Not irritant
<b>Sub-chronic toxicity:</b>	
- NOEL	100 ppm (13 weeks oral rat)

**Effects of overexposure :**

**Chronic toxicity** No data available

**Mutagenicity**

No evidence of genotoxic or mutagenic activity was noted in Ames tests, the mouse lymphoma and chromosome aberration tests.

**Carcinogenicity**

Not included in NTP 12th Report on Carcinogens  
Not classified by IARC

**Reproductive toxicity**

Butylated triphenyl phosphate did not demonstrate reproductive toxicity. In a rat reproduction study, male and female animals received either 50, 250 or 1000 mg/kg/day for several weeks after which they mated. There was no reproductive toxicity observed at any dose level. Diagnostic pathology confirmed no alterations to the reproductive organs. There was no effect on mating index, litter size, survival of the offspring or on any other measured parameter.

**Teratogenicity**

Not teratogenic when administered orally up to 1000 mg/kg

**Neurotoxicity**

No signs of acute delayed neurotoxicity when administered orally to hens at 23 g/kg.

---

**12. ECOLOGICAL INFORMATION**

---

**Aquatic toxicity:**

- 96 Hour-LC50, Fish	0.8 mg/l (Ictalurus punctatus)
- 96 Hour-EC50, fish	> 2.0 mg/l Rainbow Trout
- LC50, Crustacea	0.39 mg/l ((Mysid shrimp, 96-hours))
- 48 Hour-EC50, Daphnia magna	202 µg/L

**Biodegradation**

Readily biodegradable

**Bioaccumulative potential**

The wholefish BCF was found to be 1850.

**Note:**

Not considered to be PBT or vPvB

---

### 13. DISPOSAL CONSIDERATIONS

---

**Waste Disposal** Reuse where possible or return to the manufacturer. May be recycled. Do not release to drains or waterways. Contact the manufacturer for additional information

**Legislation** Dispose of in accordance with relevant local legislation.

---

### 14. TRANSPORT INFORMATION

---

Not regulated for surface and air transport in non-bulk (<450 litres/119 gallons) packagings. (contains triphenyl phosphate which is a Marine Pollutant per 49CFR 172.101 Appendix B)

**UN No.** 3082

**IMDG** Proper shipping name: Environmentally hazardous substance, liquid, n.o.s (triphenyl phosphate, tert-butylated triphenyl phosphate mixtures containing 10% to 48% triphenyl phosphates)

Class: 9 - Miscellaneous Dangerous Substances and Articles

Label: 9

Mark: MARINE POLLUTANT

Packing Group: III

**ADR/RID** Proper shipping name: Environmentally hazardous substance, liquid, n.o.s (triphenyl phosphate, tert-butylated triphenyl phosphate mixtures containing 10% and 48% triphenyl phosphates)  
Classification Code: M6  
Class: 9 - Miscellaneous Dangerous Substances and Articles  
Danger Label Model No.: 9  
Hazard identification No: 90  
Packing group: III  
Marking: Environmentally hazardous substance

**ICAO/IATA** Proper shipping name: Environmentally hazardous substance, liquid , n.o.s (triphenyl phosphate, tert-butylated triphenyl phosphate mixtures containing 10% to 48% triphenyl phosphates)  
Class: 9  
Hazard label(s): Miscellaneous  
Packing group: III  
Marking: Environmentally hazardous substance

**DOT** Proper shipping name: Environmentally hazardous substances, liquid , n.o.s (triphenyl phosphate, tert-butylated triphenyl phosphate mixtures containing 10% to 48% triphenyl phosphates)  
Class: 9 - Miscellaneous Hazardous Material  
Label: 9  
Packing Group: III

---

### 15. REGULATORY INFORMATION

---

**Poison Schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

**AICS** All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

---

## 16. OTHER INFORMATION

---

### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a MSDS which would encompass all possible scenarios, it is anticipated that the end user will assess the risks and apply control methods where appropriate.

### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this MSDS is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered by the end user before final selection of personal protective equipment is made.

### REPORT STATUS:

This MSDS has been prepared by Tru-Blu Oil using the most current information available at the time of issuing. Tru-Blu Oil accepts no liability (as lawfully allowed) for any loss, injury or damage which may have been suffered or incurred by any person as a consequence of their reliance on information that is contained in this MSDS.

**MSDS Date:** 07<sup>th</sup> February 2016

**End of MSDS**