

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name : FORYL PBW                      DRP0060TR

Product code : 000000000000011838

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- : Textile auxiliary  
stance/Mixture

### 1.3 Details of the supplier of the safety data sheet

Company : Pulcra Kimya Sanayi ve Ticaret A.S.  
Beylikbaşı Mahallesi 341 Sokak No:1  
41410 Gebze  
Turkey

Telephone : +90-2626754200  
Responsible/issuing person : MSDS-TR@pulcrachem.com

### 1.4 Emergency telephone number

Telephone : +90-2626754404

: WHO Directory of poison centres  
[www.who.int/ipcs/poisons/centre/en/](http://www.who.int/ipcs/poisons/centre/en/)

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Serious eye damage, Category 1                      H318: Causes serious eye damage.

Chronic aquatic toxicity, Category 3                      H412: Harmful to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

P273 Avoid release to the environment.  
P280 Wear eye protection/ face protection.

### Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P391 Collect spillage.

### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

Alcohols, C11-14-iso-, C13-rich, ethoxylated

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. EC-No. Registration number Index-No.	Classification	Concentration (% w/w)
Alcohols, C12-14, ethoxylated, propoxylated	68439-51-0 Polymer	Aquatic Chronic 3; H412	>= 25 - < 30
Alcohols, C12-18, ethoxylated	68213-23-0 Polymer	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 10 - < 20
propan-2-ol	67-63-0 200-661-7 01-2119457558-25 603-117-00-0	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 3 - < 10
Sodium 2-ethylhexyl sulfate	126-92-1 204-812-8 01-2119971586-23	Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 1 - < 3
2-(2-butoxyethoxy)ethanol	112-34-5 203-961-6 01-2119475104-44 603-096-00-8	Eye Dam. 2; H319	>= 1 - < 3

For explanation of abbreviations see section 16.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

---

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- |                         |   |  |
|-------------------------|---|--|
| General advice          | : | If you feel unwell, seek medical advice (show the label where possible).<br>Show this safety data sheet to the doctor in attendance.<br>Take off contaminated clothing and shoes immediately.  |
| If inhaled              | : | Move to fresh air.<br>If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>Obtain medical attention.                             |
| In case of skin contact | : | Wash with plenty of soap and water.<br>Cover wound with sterile dressing.<br>If symptoms persist, call a physician.  |
| In case of eye contact  | : | If easy to do, remove contact lens, if worn.<br>Rinse immediately with plenty of water, also under the eyelids.<br>Get medical attention immediately.  |
| If swallowed            | : | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.<br>IF SWALLOWED: Immediately call a POISON CENTER/doctor.<br>If a person vomits when lying on his back, place him in the recovery position. |

### 4.2 Most important symptoms and effects, both acute and delayed

- |          |   |                           |
|----------|---|---------------------------|
| Symptoms | : | No information available. |
| Risks    | : | No information available. |

### 4.3 Indication of any immediate medical attention and special treatment needed

- |           |   |                           |
|-----------|---|---------------------------|
| Treatment | : | No information available. |
|-----------|---|---------------------------|

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- |                              |   |   |
|------------------------------|---|---|
| Suitable extinguishing media | : | Product is compatible with standard fire-fighting agents. |
|------------------------------|---|---|

### 5.2 Special hazards arising from the substance or mixture

- |                                       |   |   |
|---------------------------------------|---|---|
| Specific hazards during fire-fighting | : | Do not use a solid water stream as it may scatter and spread fire.<br>Hazardous decomposition products formed under fire conditions.<br>Exposure to decomposition products may be a hazard to health. |
|---------------------------------------|---|---|

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

## 5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
In the event of fire and/or explosion do not breathe fumes.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment.  
Avoid contact with skin, eyes and clothing.  
Remove all sources of ignition.  
Immediately evacuate personnel to safe areas.

### 6.2 Environmental precautions

- Environmental precautions : Do not flush into surface water or sanitary sewer system.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.  
Clean contaminated surface thoroughly.

### 6.4 Reference to other sections

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : For personal protection see section 8.  
Do not breathe vapours or spray mist.  
Avoid contact with skin and eyes.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
Avoid contact with skin, eyes and clothing.  
When using do not eat, drink or smoke.  
Wash hands before breaks and at the end of workday.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Wash contaminated clothing before re-use.

Dust explosion class : Not applicable

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.  
Keep away from heat and sources of ignition.

Advice on common storage : Keep away from food and drink.  
Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Other data : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : For further information, refer to the product technical data sheet.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

No data available

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

No data available

### 8.2 Exposure controls

#### Personal protective equipment

Eye protection : Goggles

Hand protection  
Material : Protective gloves complying with EN 374.

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.  
For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In case of inadequate ventilation wear respiratory protection.  
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.  
Suitable respiratory equipment:  
Respirator with combination filter for vapour/particulate (EN

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

141)  
See information supplied by the manufacturer.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: colourless, light yellow
Odour	: No data available
Odour Threshold	: No data available
pH	: 6 - 7 (20 °C) Concentration: 10 g/l
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: No data available
Evaporation rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies) Water solubility	: soluble
Partition coefficient: n-octanol/water	: No data available
Self-ignition	: No data available
Decomposition temperature	: No data available
Viscosity Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

## 9.2 Other information

Dust explosion class : Not applicable

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

### 10.4 Conditions to avoid

Conditions to avoid : Protect from contamination.  
Oxidizing material can cause a reaction.

### 10.5 Incompatible materials

Materials to avoid : No data available

### 10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

##### Components:

#### Alcohols, C12-14, ethoxylated, propoxylated:

Acute oral toxicity : LD50 (Rat, male): 4.227 mg/kg  
Method: Directive 84/449/EEC  
GLP: no

LD50 (Rat, female): 3.515 mg/kg  
Method: Directive 84/449/EEC  
GLP: no

#### Alcohols, C12-18, ethoxylated:

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Acute oral toxicity : LD50 (Rat): 1.400 mg/kg  
Method: OECD Test Guideline 401  
GLP: No information available.  
Information taken from reference works and the literature.

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Information taken from reference works and the literature.

### **propan-2-ol:**

Acute oral toxicity : LD50 (Rat, male and female): 5.840 mg/kg  
Method: OECD Test Guideline 401  
GLP: No information available.  
Information taken from reference works and the literature.

Acute inhalation toxicity : LC50 (Rat, male and female): > 10000 ppm  
Exposure time: 6 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403  
GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): > 10.000 mg/kg  
Method: OECD Test Guideline 402  
GLP: no  
Information taken from reference works and the literature.

### **Sodium 2-ethylhexyl sulfate:**

Acute oral toxicity : LD50 (Rat, male and female): 2.840 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

### **2-(2-butoxyethoxy)ethanol:**

Acute oral toxicity : LD50 (Mouse, male): 2.410 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

Acute dermal toxicity : LD50 (Rabbit, male): 2.764 mg/kg  
Method: OECD Test Guideline 402  
GLP: no

### **Skin corrosion/irritation**

#### **Product:**

Irritating to skin.

#### **Components:**

**Alcohols, C12-14, ethoxylated, propoxylated:**

Species: Rabbit



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Method: Directive 84/449/EEC  
Result: irritating  
GLP: yes

## **Alcohols, C12-18, ethoxylated:**

Species: Rabbit  
Assessment: No skin irritation  
Method: OECD Test Guideline 404  
Result: Mild skin irritation  
GLP: yes  
Information taken from reference works and the literature.

## **propan-2-ol:**

Species: Rabbit  
Exposure time: 4 h  
Assessment: No skin irritation  
Method: OECD Test Guideline 404  
Result: No skin irritation  
GLP: yes  
Information taken from reference works and the literature.

## **Sodium 2-ethylhexyl sulfate:**

Species: Rabbit  
Exposure time: 4 h  
Assessment: Causes skin irritation.  
Method: OECD Test Guideline 404  
Result: Mild skin irritation  
GLP: No information available.

## **2-(2-butoxyethoxy)ethanol:**

Species: Rabbit  
Assessment: No skin irritation  
Method: OECD Test Guideline 404  
Result: No skin irritation  
GLP: no

## **Serious eye damage/eye irritation**

### **Product:**

Eye irritation

### **Components:**

## **Alcohols, C12-14, ethoxylated, propoxylated:**

Species: Rabbit  
Exposure time: 24 h  
Method: OECD Test Guideline 405  
Result: Mild eye irritation  
GLP: yes

## **Alcohols, C12-18, ethoxylated:**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Species: Rabbit  
Exposure time: 24 h  
Assessment: Causes serious eye damage.  
Method: OECD Test Guideline 405  
Result: Severe eye irritation  
GLP: yes  
Information taken from reference works and the literature.

### **propan-2-ol:**

Species: Rabbit  
Assessment: Causes serious eye irritation.  
Method: OECD Test Guideline 405  
Result: Eye irritation  
GLP: no

### **Sodium 2-ethylhexyl sulfate:**

Species: Rabbit  
Assessment: Causes serious eye damage.  
Method: OECD Test Guideline 405  
Result: Eye irritation  
GLP: No information available.

### **2-(2-butoxyethoxy)ethanol:**

Species: Rabbit  
Assessment: Causes serious eye irritation.  
Method: OECD Test Guideline 405  
Result: Severe eye irritation  
GLP: no

### **Respiratory or skin sensitisation**

#### **Product:**

No data available

#### **Components:**

##### **Alcohols, C12-18, ethoxylated:**

Test Type: Buehler Test  
Species: Guinea pig  
Assessment: not sensitizing  
Method: OECD Test Guideline 406  
Result: negative  
GLP: No information available.  
Information taken from reference works and the literature.

##### **propan-2-ol:**

Test Type: Buehler Test  
Species: Guinea pig  
Assessment: Did not cause sensitisation on laboratory animals.  
Method: OECD Test Guideline 406  
Result: negative

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

GLP: no

### **Sodium 2-ethylhexyl sulfate:**

Test Type: Local lymph node assay (LLNA)

Species: Mouse

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 429

Result: negative

GLP: yes

### **2-(2-butoxyethoxy)ethanol:**

Test Type: Maximisation Test

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

GLP: No information available.

### **Germ cell mutagenicity**

#### **Product:**

Genotoxicity in vitro : No data available

Genotoxicity in vivo : No data available

Germ cell mutagenicity- Assessment : No data available

#### **Components:**

##### **Alcohols, C12-18, ethoxylated:**

Genotoxicity in vitro : Test Type: Ames test  
Concentration: see freetext  
Metabolic activation: with and without metabolic activation  
Method: OECD 471  
Result: negative  
GLP: yes  
Information taken from reference works and the literature.

##### **propan-2-ol:**

Genotoxicity in vitro : Test Type: Ames test  
Species: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: no

: Test Type: In vitro mammalian cell gene mutation test  
Species: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Result: negative  
GLP: yes

### Genotoxicity in vivo

: Test Type: Micronucleus assay  
Species: Mouse (male and female)  
Strain: ICR  
Cell type: Bone marrow  
Application Route: Intraperitoneal  
Dose: 350 - 3500 mg/kg  
Method: OECD Test Guideline 474  
Result: negative  
GLP: yes

### Sodium 2-ethylhexyl sulfate:

#### Genotoxicity in vitro

: Test Type: Ames test  
Species: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: no

: Test Type: Chromosome aberration test in vitro  
Species: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: no

: Test Type: In vitro mammalian cell gene mutation test  
Species: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: no

### 2-(2-butoxyethoxy)ethanol:

#### Genotoxicity in vitro

: Test Type: Ames test  
Species: Escherichia coli  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: No information available.

: Test Type: Chromosome aberration test in vitro  
Species: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: No information available.

: Test Type: In vitro mammalian cell gene mutation test  
Species: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Result: negative  
GLP: No information available.

Genotoxicity in vivo : Test Type: Micronucleus assay  
Species: Mouse (male and female)  
Strain: CD-1  
Cell type: Bone marrow  
Application Route: Oral  
Dose: 0, 330, 1100, 3300 mg/kg  
Method: OECD Test Guideline 475  
Result: negative  
GLP: No information available.

### Carcinogenicity

#### Product:

Carcinogenicity - Assessment : No data available

#### Components:

##### **propan-2-ol:**

Species: Mouse, (male and female)  
Application Route: Inhalation  
Exposure time: 78 w  
Group: yes  
NOAEL: 5.000 mg/l  
Method: OECD Test Guideline 451  
Result: negative  
GLP: yes

### Reproductive toxicity

#### Product:

Effects on foetal development : This information is not available.

Reproductive toxicity - Assessment : No data available  
No data available

#### Components:

##### **propan-2-ol:**

Effects on fertility : Species: Rat  
Sex: male and female  
Application Route: Oral  
Group: yes  
NOAEL: 500 mg/kg,  
F1: 1.000 mg/kg,  
F2: 1.000 mg/kg,  
Method: OECD Test Guideline 416  
GLP: yes

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Effects on foetal development : Species: Rabbit, female  
Application Route: Oral  
Group: yes  
NOAEL (teratogenicity)  
480 mg/kg  
NOAEL (maternal toxicity)  
240 mg/kg  
Method: OECD Test Guideline 414  
GLP: yes

### **Sodium 2-ethylhexyl sulfate:**

Effects on foetal development : Species: Rat, male and female  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 250 mg/kg body weight  
Developmental Toxicity: NOAEL: 250 mg/kg body weight  
Method: OECD Test Guideline 414  
GLP: yes

### **2-(2-butoxyethoxy)ethanol:**

Effects on fertility : Test Type: Two-generation study  
Species: Mouse  
Sex: male and female  
Exposure time: 14 w  
Application Route: Oral  
NOAEL: 720 mg/kg,  
F1: 720 mg/kg,  
F2: 720 mg/kg,  
Method: No information available.  
GLP: yes

Effects on foetal development : Species: Rabbit, male and female  
Application Route: Skin contact  
NOAEL (teratogenicity)  
> 100 - < 300 mg/kg  
NOAEL (maternal toxicity)  
1.000 mg/kg  
Method: OECD Test Guideline 414  
GLP: No information available.

### **STOT - single exposure**

#### **Product:**

No data available

### **STOT - repeated exposure**

#### **Product:**

No data available

### **Repeated dose toxicity**

#### **Product:**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

No data available

## **Components:**

### **propan-2-ol:**

Species: Rat, male and female  
NOAEL: 5.000 mg/l  
Application Route: Inhalation  
Test atmosphere: vapour  
Exposure time: 13 weeks  
Dose: 100 - 5000 ppm  
Group: yes  
Method: OECD Test Guideline 413  
GLP: yes

### **Sodium 2-ethylhexyl sulfate:**

Species: Rat, male and female  
NOAEL: 488 mg/kg  
LOAEL: 1.016 mg/kg  
Application Route: Oral  
Exposure time: 90 d  
Group: yes  
Method: OECD Test Guideline 408  
GLP: yes

### **2-(2-butoxyethoxy)ethanol:**

Species: Rat, male and female  
NOAEL: 250 mg/kg  
Application Route: Oral  
Exposure time: 90 d  
Method: OECD Test Guideline 408  
GLP: yes

## **Aspiration toxicity**

### **Product:**

No data available

## **Further information**

### **Product:**

This product is a mixture. Health hazard information is based on its components.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

#### **Product:**

Toxicity to fish : LC50 : 10 - 100 mg/l

Toxicity to daphnia and other : No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

aquatic invertebrates

Toxicity to algae : No data available

Toxicity to microorganisms : EC0 : 10 - 100 mg/l

### Components:

#### **Alcohols, C12-14, ethoxylated, propoxylated:**

Toxicity to fish : LC0 (Leuciscus idus (Golden orfe)): 1,5 mg/l  
Exposure time: 48 h  
GLP: no

LC50 : 1,6 mg/l

LC100 : 1,8 mg/l

Toxicity to daphnia and other : EC0 (Daphnia magna (Water flea)): 2,8 mg/l  
aquatic invertebrates Exposure time: 24 h  
GLP: no

EC50 : 5,4 mg/l

EC100 : 8 mg/l

Toxicity to algae : EC0 (Pseudokirchneriella subcapitata (green algae)): 0,25 mg/l  
Exposure time: 72 h  
Method: DIN 38412  
GLP: yes

LOEC : 1,0 mg/l

EbC50 : 1,679 mg/l

Toxicity to microorganisms : EC0 (Pseudomonas putida): > 1.000 mg/l  
Exposure time: 16 h  
GLP: no

#### **Alcohols, C12-18, ethoxylated:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1,7 mg/l  
Exposure time: 96 h  
Method: ISO 7346/2  
GLP: no

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 4,5 mg/l  
aquatic invertebrates Exposure time: 48 h  
Method: DIN 38412  
GLP: no

Toxicity to algae : LOEC (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l  
Exposure time: 72 h  
Method: DIN 38412



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

GLP: no

Toxicity to microorganisms : EC0 (*Pseudomonas putida*): 1.000 mg/l  
Exposure time: 30 min  
Method: DIN 38412, Part 27 (ROBRA Test, conforms with OECD 209)  
GLP: no

### propan-2-ol:

Toxicity to fish : LC50 (*Fat head minnow*): 9.640 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
GLP: No information available.

LC50 (*Pimephales promelas* (*fathead minnow*)): 9.640 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: no  
Information taken from reference works and the literature.

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (*Water flea*)): > 10.000 mg/l  
Exposure time: 48 h  
Test Type: static test  
Analytical monitoring: no  
Method: OECD Test Guideline 202  
GLP: No information available.  
Information taken from reference works and the literature.

Toxicity to algae : EC0 (*Scenedesmus quadricauda* (*Green algae*)): 1.800 mg/l  
Exposure time: 7 d  
Test Type: static test  
Analytical monitoring: no  
Method: No information available.  
GLP: no  
Information taken from reference works and the literature.

Toxicity to microorganisms : EC0 (*Pseudomonas putida*): 1.050 mg/l  
Exposure time: 16 h  
Method: DIN 38 412 Part 8  
GLP: no

### Sodium 2-ethylhexyl sulfate:

Toxicity to fish : LC50 (*Danio rerio* (*zebra fish*)): > 100 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (*Water flea*)): 483 mg/l  
Exposure time: 48 h  
Test Type: static test

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Analytical monitoring: yes  
Method: Regulation (EC) No. 440/2008, Annex, C.2  
GLP: yes

Toxicity to algae : EC50 (*Desmodesmus subspicatus* (green algae)): > 511 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 201  
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): 135 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
GLP: no

### 2-(2-butoxyethoxy)ethanol:

Toxicity to fish : LC50 (*Lepomis macrochirus* (Bluegill sunfish)): 1.300 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203  
GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 3.300 mg/l  
Exposure time: 24 h  
GLP: no

EC50 (*Daphnia magna* (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: Regulation (EC) No. 440/2008, Annex, C.2  
GLP: yes

Toxicity to algae : EC50 (*Desmodesmus subspicatus* (green algae)): > 100 mg/l  
End point: Growth rate  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes

Toxicity to microorganisms : EC10 (*Pseudomonas putida*): 1.170 mg/l  
Exposure time: 16 h  
GLP: no

## 12.2 Persistence and degradability

### Product:

Biodegradability : Information given is based on data on the components and the ecotoxicology of similar products.  
The examination of the product in the modified Zahn-Wellens test (OECD 302 B) showed an elimination of > 70 % DOC reduction within a test period of 28 days.

**FORYL PBW****DRP0060TR**Version  
1.2Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

**Components:****Alcohols, C12-14, ethoxylated, propoxylated:**

Biodegradability : Result: meets the European detergents legislation  
Biodegradation: 96,6 %  
Exposure time: 19 d  
Method: OECD confirmatory test for primary degradability  
GLP: no

Inoculum: activated sludge  
Result: Biodegradable and/or eliminable (DOC-Removal => 60 - < 80%).  
Method: OECD 303A  
GLP: no

Result: Readily biodegradable.  
Biodegradation: 78 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F  
GLP: yes  
Readily and rapidly degradable. All organic substances contained in the product achieve > 60% BOD/COD or CO<sub>2</sub> liberation, or > 70% DOC reduction in tests for ease of degradability. Threshold values for 'readily degradable' (e.g. to OECD method 301) are reached.  
The surfactant(s) contained in this product complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Biodegradation: 23,6 %  
Exposure time: 42 d  
Method: anaerobic  
GLP: no

**Alcohols, C12-18, ethoxylated:**

Biodegradability : Inoculum: activated sludge  
Result: Readily biodegradable.  
Biodegradation: 77 %  
Exposure time: 30 d  
Method: OECD Test Guideline 301D  
GLP: no  
Readily and rapidly degradable. All organic substances contained in the product achieve > 60% BOD/COD or CO<sub>2</sub> liberation, or > 70% DOC reduction in tests for ease of degradability. Threshold values for 'readily degradable' (e.g. to OECD method 301) are reached.

**propan-2-ol:**

Biodegradability : Inoculum: activated sludge  
Result: Readily biodegradable.  
Biodegradation: 70 - 84 %

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

## FORYL PBW

## DRP0060TR

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

Exposure time: 30 d  
Method: OECD Test Guideline 301  
GLP: no

### **Sodium 2-ethylhexyl sulfate:**

Biodegradability : Inoculum: activated sludge  
Result: Readily biodegradable.  
Biodegradation: 89,3 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
GLP: yes

### **2-(2-butoxyethoxy)ethanol:**

Biodegradability : Inoculum: activated sludge  
Result: Readily biodegradable.  
Biodegradation: 85 %  
Related to: Biochemical oxygen demand  
Exposure time: 28 d  
Method: OECD Test Guideline 301C  
GLP: no

## 12.3 Bioaccumulative potential

### **Product:**

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

### **Components:**

#### **propan-2-ol:**

Partition coefficient: n-octanol/water : log Pow: 0,05 (25 °C)  
Information taken from reference works and the literature.

#### **Sodium 2-ethylhexyl sulfate:**

Partition coefficient: n-octanol/water : log Pow: -0,248 (25 °C)  
pH: 8,97 - 8,98  
Method: OECD Test Guideline 123  
GLP: no

#### **2-(2-butoxyethoxy)ethanol:**

Partition coefficient: n-octanol/water : log Pow: 1 (20 °C)  
pH: 7  
Method: OECD Test Guideline 117  
GLP: yes

## 12.4 Mobility in soil

### **Product:**

Mobility : Medium: Soil

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

No data available

## 12.5 Results of PBT and vPvB assessment

### **Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

## 12.6 Other adverse effects

### **Product:**

Additional ecological information : Information given is based on data on the components and the ecotoxicology of similar products.  
The product should not be allowed to enter drains, water courses or the soil.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : In accordance with local and national regulations.  
Do not dispose of waste into sewer.  
Do not dispose of together with household waste.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Dispose of as unused product.

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## SECTION 14: Transport information

### 14.1 UN number

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

		Quantity 1	Quantity 2
9a	Dangerous for the environment	100 t	200 t

## SECTION 16: Other information

### Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H302	: Harmful if swallowed.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H336	: May cause drowsiness or dizziness.
H412	: Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Chronic aquatic toxicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Skin Irrit.	: Skin irritation
STOT SE	: Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumu-

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pulcra** Chemicals

**FORYL PBW**

**DRP0060TR**

Version  
1.2

Revision Date:  
16.06.2017

Date of last issue: 16.06.2017

lative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

## Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.