

TRILOGY

Preparation Date 05-Apr-2012

Revision Date 17-Jan-2014

Revision Number: 2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Identification of the product**

Product Code HBQ02_UK

Product Description: TRILOGY

Pure substance/preparation Preparation

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

Recommended Use Herbicide

1.3 Details of the supplier of the safety data sheet

Supplier United Phosphorus Ltd
The Centre
Birchwood Park
Warrington
WA3 6YN
Cheshire, UK
Tel. : +44 (0) 1925 819999
Fax : +44 (0)1925 856075

Telephone +44 (0) 1925 819999
Telefax +44 (0)1925 856075
E-mail Address info.uk@uniphos.com

1.4 Emergency telephone numberEmergency Telephone Number **(CARECHEM 24): +44 (0) 1235 239670**

United Kingdom NHS Direct (UK): +44 0845 46 47

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Symbol(s) N - Dangerous for the environment
Xi - Irritant

R-code(s) Xi;R36 N;R50/53

For the full text of the R phrases mentioned in this Section, see Section 16

2.2 Label Elements



Symbol(s)
N - Dangerous for the environment
Xi - Irritant

R -phrase(s)
R36 - Irritating to eyes
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S -phrase(s)
S 2 - Keep out of the reach of children
S13 - Keep away from food, drink and animal feedingstuffs
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S46 - If swallowed, seek medical advice immediately and show this container or label
S49 - Keep only in the original container
S57 - Use appropriate container to avoid environmental contamination
S20/21 - When using, do not eat, drink or smoke
S36/37 - Wear suitable protective clothing and gloves

2.3 Other hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

| Chemical Name | EC No. | CAS-No | Weight % | Classification (Dir.67/548) | EU - GHS Substance Classification | REACH No. |
|--|-----------|------------|----------|--|--|-------------------|
| Phenmedipham | 237-199-0 | 13684-63-4 | 5 - 10 | N; R50/53 | Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | No data available |
| Desmedipham | 237-198-5 | 13684-56-5 | 1 - 5 | N; R50/R53 | Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | No data available |
| Ethofumesate | 247-525-3 | 26225-79-6 | 10 - 20 | N; R51/53 | Aquatic Chronic 2 (H411) | No data available |
| Aqueous dipropylene glycol solution of approx. 20% 1,2-benzisothiazolin-3-one (2634-33-5 (17-23% + 1310-73-2 (5-15%)) | - | - | < 1 | C; R34 Xn; R22 Xi; R43 N; R50 | - | - |
| Ethoxylated fatty alcohol | - | - (ND) | 1 - 5 | Xn; R22 Xi; R41 | Eye Dam. 1 (H318) Acute Tox. 4 (H302) | No data available |
| Tributyl phosphate | 204-800-2 | 126-73-8 | < 1 | Carc.Cat.3; R40 Xn; R22 Xi; R38 | Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Carc. 2 (H351) | No data available |
| Mixutre with Polyacrylate de triethanolamine | - | - | 1 - 5 | R10 R67 | STOT SE 3 (H336) | No data available |
| Isopropylamine Alkyl Benzene Sulphonate | 271-531-5 | 68584-24-7 | 1 - 5 | Xn; R22 Xi; R38 Xi; R41 | Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Acute Tox. 4 (H302) | No data available |

For the full text of the R phrases mentioned in this Section, see Section 16

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

4.1 Description of first-aid measures

| | |
|-----------------------|---|
| General Advice | In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |
| Eye Contact | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes If eye irritation persists, consult a specialist |
| Skin Contact | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes |
| Ingestion | Call a POISON CENTER or doctor/physician if exposed or you feel unwell Do NOT induce vomiting |
| Inhalation | Move to fresh air Call a POISON CENTER or doctor/physician if you feel unwell |

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

| | |
|---------------------------------------|---|
| Suitable Extinguishing Media | Water spray Smother flames with sand, dry powders or carbon dioxide. |
| Unsuitable Extinguishing Media | Do not use a solid water stream as it may scatter and spread fire. |

5.2 Special hazards arising from the substance or mixture

| | |
|-----------------------|--|
| Special hazard | Hazardous decomposition products formed under fire conditions: nitrogen oxides (NOx) Carbon oxides Carbon dioxide (CO2) |
|-----------------------|--|

5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective suit

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas
Avoid contact with eyes

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so

6.3 Methods and materials for containment and cleaning up

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling

Provide adequate ventilation
Wear personal protective equipment
Avoid contact with skin and eyes
Ensure that eyewash stations and safety showers are close to the workstation location

Hygiene Measures

Do not eat, drink or smoke when using this product.
Wash hands after handling

7.2 Conditions for safe storage, including any incompatibilities

Keep only in the original container/package in a cool well-ventilated place
Keep out of the reach of children
Protect from light

7.3 Specific end uses

No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits Apply technical measures to comply with the occupational exposure limits

| Chemical Name | EU | United Kingdom | France | Spain | Germany |
|--|--|--|--|--|---|
| Tributyl phosphate | | STEL: 5 mg/m ³ TWA: 5 mg/m ³ | TWA: 0.2 ppm TWA: 2.5 mg/m ³ | TWA: 0.2 ppm TWA: 2.2 mg/m ³ | MAK: 1 ppm MAK: 11 mg/m ³ Ceiling / Peak: 4 ppm Ceiling / Peak: 44 mg/m ³ Skin |
| Component | Italy | Portugal | Netherlands | Finland | Denmark |
| Tributyl phosphate 126-73-8 (< 1) | | TWA: 0.2 ppm | | TWA: 0.2 ppm TWA: 2.5 mg/m ³ STEL: 0.4 ppm STEL: 5 mg/m ³ | TWA: 0.2 ppm TWA: 2.5 mg/m ³ |
| Chemical Name | Austria | Switzerland | Poland | Norway | Ireland |
| Tributyl phosphate | Skin STEL 5 mg/m ³ TWA: 2.5 mg/m ³ | Skin STEL: 0.4 ppm STEL: 5 mg/m ³ TWA: 0.2 ppm TWA: 2.5 mg/m ³ | | TWA: 0.2 ppm TWA: 2.5 mg/m ³ STEL: 0.6 ppm STEL: 5 mg/m ³ | TWA: 0.2 ppm |

| Component | Italy | Portugal | Netherlands | Finland | Denmark |
|--|---|----------|-------------|---------|---------|
| Tributyl phosphate 126-73-8 (< 1) | (ACGIH:) 70 % of baseline red blood cells discretionary Cholinesterase activity Nonspecific | | | | |

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2 Exposure controls

Engineering Controls Ensure adequate ventilation, especially in confined areas

Personal protective equipment

Eye Protection Safety glasses with side-shields.
Skin Protection Long sleeved clothing. (Tyvek).
Hand Protection Protective gloves: Nitrile rubber.
Respiratory Protection Respiratory protection complying with EN 143

Environmental exposure controls No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | | |
|---|--|------------------------|
| Appearance | off-white | |
| Physical State | Liquid | |
| Odor | Strong | |
| <u>Property</u> | <u>Values</u> | <u>Remarks/ Method</u> |
| pH | 7.07 | CIPAC MT 75 |
| Melting point/freezing point | No information available | |
| Boiling Point/Range | | |
| Flash Point | > 104 °C | EEC A.9 |
| Evaporation rate | No information available | |
| Flammability (solid, gas) | Not applicable | |
| Specific Gravity | 1,01 | 20°C |
| Water Solubility | No information available | |
| Solubility in other solvents | No information available | |
| Partition coefficient: n-octanol/water | No information available | |
| Autoignition Temperature | > 400 °C | EEC A.15 |
| Decomposition temperature | No information available. | |
| Viscosity | 2,22 x 104 mPa.s 20°C | |
| Oxidizing Properties | Non oxidizing | |
| Explosive Properties | According to the chemical structure no explosion reaction is expected. | |

9.2 Other information

VOC Content No information available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No information available.

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of Hazardous Reactions

10.4 Conditions to Avoid

Temperatures above 30°C

10.5 Incompatible materials

Strong bases
Strong oxidizing agents

10.6 Hazardous decomposition products

Carbon oxides
Carbon monoxide
Carbon dioxide (CO₂)

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity**Local effects****Inhalation**

Not applicable.

Eye Contact

Irritating to eyes. (rabbit).

Skin Contact

No skin irritation. (rabbit).

Ingestion

No information available.

LD50 Oral

> 2500 mg/kg (rat)

LD50 Dermal

> 4000 mg/kg (rat)

Chronic Toxicity**Skin corrosion/irritation**

No information available.

Corrosivity

No information available.

Sensitization

Did not cause sensitization.

Repeated Dose Toxicity

No information available

Carcinogenic effects

No information available

Mutagenic Effects

No information available

Reproductive Effects

No information available

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

EC50/72h/algae = 0,8 mg/L (Pseudokirchneriella subcapitata)

LC50/48h/daphnia = 34 mg/L

LC50/fish/96 h = 24 mg/L

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No data is available on the product itself.

| Chemical Name | log Pow |
|--------------------|---------|
| Phenmedipham | 3.59 |
| Desmedipham | 3,39 |
| Tributyl phosphate | 2.5 |

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

| | |
|--|--|
| Waste from Residues / Unused Products | Dispose of in accordance with local regulations. |
| Contaminated Packaging | Empty containers should be taken for local recycling, recovery or waste disposal. |
| EWC waste disposal No | 020108 - agrochemical waste containing dangerous substances. |
| Other Information | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. |

14. TRANSPORT INFORMATION**ADR/RID**

| | |
|-----------------------------------|---|
| 14.1. UN-No | UN3082 |
| 14.2. Proper Shipping Name | Environmentally hazardous substance, liquid, n.o.s. ((Ethofumesate, Phenmedipham) |
| 14.3. Hazard Class | 9 |
| 14.4. Packing Group | III |
| 14.5. Environmental hazard | yes |
| 14.6. Special Provisions | 274, 335, 601 |
| Tunnel restriction code | (E) |

IMDG/IMO

| | |
|-----------------------------------|--|
| 14.1. UN-No | UN3082 |
| 14.2. Proper Shipping Name | Environmentally hazardous substance, liquid, n.o.s ((Ethofumesate, Phenmedipham) |
| 14.3. Hazard Class | 9 |
| 14.4. Packing Group | III |
| 14.5. Environmental hazard | Marine pollutant |
| 14.6. Special Provisions | 274, 335 |

IATA/ICAO

| | |
|-----------------------------------|--|
| 14.1. UN-No | UN3082 |
| 14.2. Proper Shipping Name | Environmentally hazardous substance, liquid, n.o.s ((Ethofumesate, Phenmedipham) |
| 14.3. Hazard Class | 9 |
| 14.4. Packing Group | III |
| 14.5. Environmental hazard | yes |
| 14.6. Special Provisions | A97, A158 |

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Registration n° MAPP 14464

- To avoid risks to man and the environment, comply with the instructions for use

International Inventories

| | |
|---------------------------|----------|
| TSCA | Complies |
| EINECS/ ELINCS | Complies |
| DSL/NDSL | Complies |
| PICCS | Complies |
| ENCS | Complies |
| CHINA | - |
| AICS | Complies |
| KECL | Complies |

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

15.2 Chemical Safety Assessment

A chemical safety assessment has not been carried out.

16. OTHER INFORMATION**Full text of R-phrases referred to under sections 2 and 3**

R10 - Flammable
R22 - Harmful if swallowed
R34 - Causes burns
R38 - Irritating to skin
R40 - Limited evidence of a carcinogenic effect
R41 - Risk of serious damage to eyes
R43 - May cause sensitization by skin contact
R50 - Very toxic to aquatic organisms
R67 - Vapours may cause drowsiness and dizziness

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H351 - Suspected of causing cancer
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects

Revision Date 17-Jan-2014

Revision Note not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information contained is based on our knowledge of the product at the date of publishing.
It applies to the PRODUCT AS SUCH. In case of formulation or mixture, make sure that a new danger will not appear.
Users are advised of possible additional hazards when the product is used in applications for which it was not intended.
This sheet shall only be used and duplicated for prevention and Safety purposes.
For rates and use recommendations, refer to the information displayed on the packaging.
It is the responsibility of the handlers of the product to pass on this safety data sheet to any subsequent persons who will come into contact with the product.

End of Safety Data Sheet