



## **MATERIAL SAFETY DATA SHEET**

According to EC Directive 91/155 EC

Date: 01/05/10

### 1. Identification of the substance/preparation and of the company/ undertaking

#### 1.1 Product Details:

Trade Name: Tetracycline Solution

Catalogue Number: BIO-87030, 10ml

#### 1.2 Company Details:

Manufacturer/ Supplier: Bioline  
16 The Edge Business Centre  
Humber Road  
London  
NW2 6EW  
Tel: +44 (0)20 8830 5300  
Fax: +44 (0)20 8452 2822

Further Information Obtainable from:

Technical Services  
Details as above

#### 1.3 Emergency Details:

24-Hour Contact in case of emergency:

Vergiftungs-Informations-Zentrale  
Mathilden Strasse 1  
79106 Freiburg  
GERMANY  
Tel: +49 (0) 761 19240

## 2. Composition/ Information on Ingredients

### 2.1 Chemical Characterisation:

Description: Mixture of substances listed below with non-hazardous additions.

Dangerous Components:

ETHYL ALCOHOL

CAS #	EC #	Annex I Index #	Symbols
64-17-5	200-578-6	603-002-00-5	F

R-Phrases: R11  
Highly Flammable

TETRACYCLINE HYDROCHLORIDE

CAS #	EC #	Annex I Index #	Symbols
64-75-5	200-593-8	None	Xi

R-Phrases: R 36/37/38  
Irritating to eyes, respiratory system and skin.

## 3. Hazards Identification

### 3.1 Precautionary Statements:

R11: Highly Flammable  
R36/37/38: Irritating to eyes, respiratory system and skin

## 4. First Aid Measures

### 4.1 After Inhalation:

Remove to fresh air. If irritation persists consult a doctor immediately.

### 4.2 After Swallowing:

Wash mouth out with water provided the person is conscious. Consult a doctor immediately.

### 4.3 After Contact with Eyes:

Immediately flush eyes with copious amounts of water for several minutes. Ensure adequate flushing by separating the eyelids with fingers. Consult a doctor immediately.

### 4.4 After Contact with Skin:

Immediately wash with soap and copious amounts of water. Remove any contaminated clothing and shoes. If irritation develops consult a doctor immediately.

## 5. Fire Fighting Measures

### 5.1 Suitable Extinguishing Media:

Water spray, CO<sub>2</sub> or dry chemical powder. Large fires should be confronted with water spray or alcohol resistant foam.

### 5.2 Unusual Fire Hazard:

Emits toxic fumes when on fire. Combustible liquid.

### 5.3 Fire Fighting Protective Measures:

Wear protective clothing to prevent contact with the skin and eyes.  
Wear self-contained breathing equipment to prevent inhalation of explosive or combustion gasses.

## 6. Accidental Release Measures

### 6.1 Personal Precautions:

Wear chemical safety goggles, rubber boots, respirator and heavy rubber gloves.

### 6.2 Environmental Precautions:

Do not allow to enter the surface or ground water. Do not allow to enter sewers.

### 6.3 Clean-up Measures:

Use a liquid-binding material (e.g. sand, sawdust, diatomite etc.) to absorb the spillage. Place in closed containers for disposal. Ventilate area well and wash spill site after clean-up procedures have taken place.

## 7. Handling and Storage

### 7.1 Handling:

Avoid inhalation of vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure.

### 7.2 Storage:

Keep tightly closed. Keep away from heat and open flame.

Store at  $-20^{\circ}\text{C}$ .

SPECIAL REQUIREMENTS: Light sensitive.

## 8. Exposure Controls/ Personal Protection

### 8.1 Engineering Measures:

Mechanical exhaust required. Safety shower and eye bath.

### 8.2 Personal Protection:

Respiratory Protection: Wear appropriate government approved respirator.

Hand Protection: Gloves should be worn, either rubber or chemical resistant.

Eye Protection: Wearing safety goggles is advised, as is the availability of eye-wash stations.

Skin Protection: Lab coats should be worn during handling. Safety deluge showers should be available.

Hygiene Practices: Avoid contact with skin or eyes. Do not place in mouth.

Do not eat, drink or smoke when handling this product. Upon completion of the use of this product, dispose of protective gloves safely and wash hands thoroughly with soap and water.

## 9. Physical and Chemical Properties

### 9.1 Physical Properties

Appearance: Liquid, yellow.

### 9.1 Chemical Properties

Concentration: 12.5mg/ml

Melting point/Melting range : Undetermined

Boiling point/Boiling range: Undetermined

Flash Point: Not Applicable

Autoflammability: Product is not self-igniting

Ignition Temperature: Undetermined

Explosive Properties: None

Relative Density: Undetermined

## 10. Stability and Reactivity

### 10.1 Stability

Conditions to avoid: Light

Product is stable under normal handling and storage conditions.

Materials to avoid: Strong oxidising agents, Peroxides, Ammonia, Alkali Metals.

### 10.2 Reactivity

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen Oxides, Sulphur Oxides.

Hazardous Polymerisation: Will not occur.

## 11. Toxicological Information

### 11.1 Primary Irritant Effect:

R36/37/38: Irritating to eyes, respiratory system and skin.

### 11.2 Sensitisation Effects:

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

### SIGNS AND SYMPTOMS OF EXPOSURE

Can cause phototoxic reactions, gastrointestinal disturbances, turn teeth yellow and reduce mineralisation.

### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

### 11.3 Further Toxicological Information

Target Organ information: Teeth, bones, liver.

RTECS NUMBER: QI9100000

#### ACUTE TOXICITY

LD50

Oral

Rat

6443 mg/kg

LD50

Intraperitoneal

Rat

318 MG/KG

LD50

Subcutaneous

Rat

700 MG/KG

Remarks: Gastrointestinal:Hypermotility, diarrhea.

LD50

Intravenous

Rat

128 MG/KG

LD50

Oral

Mouse

2759 mg/kg  
LD50  
Intraperitoneal  
Mouse  
368 MG/KG  
LD50  
Intravenous  
Mouse  
157 MG/KG

#### CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

#### CHRONIC EXPOSURE - MUTAGEN

Human  
500 UMOL/L  
Cell Type: fibroblast  
DNA damage  
Human  
750 UMOL/L  
Cell Type: fibroblast  
Unscheduled DNA synthesis  
Human  
1250 UMOL/L  
Cell Type: fibroblast  
DNA inhibition  
Rat  
200 UMOL/L  
Cell Type: liver  
DNA damage  
Mouse  
31600 UG/L  
Cell Type: mammary gland  
DNA inhibition  
Mouse  
31600 UG/L  
Cell Type: mammary gland  
Other mutation test systems  
Mouse  
31600 UG/L  
24H  
Cell Type: mammary gland  
Cytogenetic analysis  
Mouse  
120 MG/L  
Cell Type: lymphocyte  
Mutation in mammalian somatic cells.  
Mouse  
100 MG/L  
Cell Type: mammary gland  
Mutation in mammalian somatic cells.  
Hamster  
3 MG/L  
Cell Type: Embryo  
Sister chromatid exchange

#### CHRONIC EXPOSURE - TERATOGEN

Result: Possible risk of congenital malformation in the fetus.  
Species: Rat

Dose: 14 GM/KG  
Route of Application: Oral  
Exposure Time: (3D MALE/3D PRE-22D PREG)  
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Urogenital system.  
Species: Rat

Dose: 240 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (16-20D PREG)  
Result: Effects on Embryo or Fetus: Other effects to embryo.  
Species: Rat

Dose: 240 MG/KG  
Route of Application: Intramuscular  
Exposure Time: (10-15D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse  
Dose: 600 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (8-13D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse  
Dose: 150 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (10D PREG)  
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse  
Dose: 2250 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (10-18D PREG)  
Result: Specific Developmental Abnormalities: Urogenital system.  
Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Growth statistics (e.g., reduced weight gain).

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 6 GM/KG  
Route of Application: Oral  
Exposure Time: (9-14D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat  
Dose: 425 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (14-18D PREG)  
Result: Effects on Fertility: Abortion. Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).

Species: Rat  
Dose: 450 MG/KG  
Route of Application: Unreported  
Exposure Time: (7-15D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat  
Dose: 765 MG/KG  
Route of Application: Unreported  
Exposure Time: (7-15D PREG)  
Result: Effects on Fertility: Abortion.  
Species: Rat

Dose: 100 MG/KG  
Route of Application: Intrauterine  
Exposure Time: (1D PRE)  
Result: Maternal Effects: Uterus, cervix, vagina.  
Species: Mouse  
Dose: 900 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (8-13D PREG)  
Result: Effects on Embryo or Fetus: Fetal death. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).  
Specific Developmental Abnormalities: Musculoskeletal system.  
Species: Mouse  
Dose: 750 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (1-6D PREG)  
Result: Effects on Fertility: Abortion.  
Species: Mouse  
Dose: 2250 MG/KG  
Route of Application: Parenteral  
Exposure Time: (10-18D PREG)  
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).  
Species: Rabbit  
Dose: 9 GM/KG  
Route of Application: Oral  
Exposure Time: (8-16D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

## 12. Ecological Information

### 12.1 Environmental Effects

Environmental Fate/Stability: Unknown  
Effects on Plants or Animals: Unknown

### 12.2 Water Hazard

Unknown.

Do not allow product to come into contact with surface or ground water, and do not allow it to reach the sewage system.

## 13. Disposal Considerations

### 13.1 Product Disposal:

This product must not be disposed of with household waste or in any other manner that may lead to it entering the sewage system. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all environmental regulations.

### 13.2 Packaging Disposal:

Unclean packaging should be disposed of according to official regulations.

## 14. Transport Information

### 14.1 Land Transport:

RID/ADR

UN#: 1170

Class: 3

PG: III

Proper Shipping Name: Ethanol solution

### 14.2 Maritime Transport:

IMDG

UN#: 1170

Class: 3

PG: III

Proper Shipping Name: ETHANOL SOLUTIONS

Marine Pollutant: No

Severe Marine Pollutant: No

### 14.3 Air Transport

IATA

UN#: 1170

Class: 3

PG: III

Proper Shipping Name: Ethanol solution

Inhalation Packing Group I: No

## 15. Regulatory Information

### 15.1 Labelling According to EU Guidelines

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xi - Irritant. F- Flammable.

R-PHRASES: 10-36/37/38

Flammable. Irritating to eyes, respiratory system and skin.

S-PHRASES: 26-39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing.

### COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

## 16. Other Information

The information provided in this Material Safety Data Sheet (MSDS) is accurate to the best of our present knowledge. However, this shall not constitute a guarantee for any specific product features. All substances and preparations may present unknown hazards and should be used with caution. Bioline shall not be held liable for any damage resulting from the handling of or from contact with the above product. The information supplied in this MSDS shall not establish a legally valid contractual relationship.

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