

## 1 - PRODUCT AND COMPANY INFORMATION

|                     |   |
|---------------------|---|
| Product Name        | Chlorhexidine 0.5% in denatured ethanol 70%<br>Products: sprays 24102, 24089, 24215, 24041, 24027, 25079;<br>refills 24119, 24096, 24584, 24058, 24034, 24560 |
| Company             | Bio-Tech Solutions Ltd.<br>Windmill Works<br>Kelleythorpe Industrial Estate<br>Driffield<br>East Yorkshire<br>YO25 9DJ  |
| Technical Phone No. | 44-(0)-1377 232110  |
| Fax                 | 44-(0)-8704 450254  |
| E-mail Address      | info@bio-techsolutions.ltd.uk   |
| Emergency Phone     | 44-(0)-1377 232110  |

## 2 - HAZARDS IDENTIFICATION

### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

|                                 |  |
|---------------------------------|--|
| Classification under CLP:       | Acute Toxicity (Oral), Category 4.<br>Flammable Liquids, Category 2.   |
| Most important adverse effects: | Flammable liquid and vapour. Harmful if swallowed. Toxic if swallowed. |

### LABEL ELEMENTS

|                           |   |
|---------------------------|---|
| Label elements under CLP: |   |
| Hazard Statements:        | H226: Flammable liquid and vapour.<br>H302: Harmful if swallowed.<br>H304: May be fatal if swallowed and enters airways.<br>H301: Toxic if swallowed. |
| Signal word(s):           | Warning   |
| Hazard pictogram(s):      | GHS02: Flame  |



|                           |   |
|---------------------------|---|
| Precautionary statements: | P260: Do not breath dust/fumes/gas/mist/vapours/spray.<br>P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.<br>P270: Do not eat, drink or smoke when using this product.<br>P233: Keep container tightly closed.<br>P102: Keep out of reach of children. |
|---------------------------|---|

### OTHER HAZARDS

|                |   |
|----------------|---|
| Other hazards: | In use, may form flammable/explosive vapour-air mixture. This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher. |
| PBT:           | This product is not identified as a PBT/vPvB substance.   |

### 3 - COMPOSITION/INFORMATION ON INGREDIENTS

|                       |              |
|-----------------------|--------------|
| Product Name          | Annex I      |
| Chlorhexidine 0.5% in | Index Number |
| Denatured ethanol 70% | None         |

| Ingredient Name   | Percent | CAS #      | EC no     | Annex I<br>Index Number |
|---|---------|------------|-----------|-------------------------|
| ETHANOL<br>CLP Classification:<br>Flam. Liq. 2: H225  | 60-70   | 64-17-5    | 200-578-6 | 603-002-00-5            |
| CHLORHEXIDINE GLUCONATE<br>Symbols: Xi, N<br>R-Phrases: R41, R50/53<br>CLP: GHS05, GHS09,<br>H318, H400, H410 | <1      | 18472-51-0 | 242-354-0 | None                    |

Other information: Balance purified water, colour.

### 4 - FIRST AID MEASURES

#### GENERAL ADVICE

Remove victim immediately from source of exposure. Get medical attention if any discomfort continues.

#### AFTER INHALATION

Coughing or wheezing may occur with shortage of breath. Remove casualty to fresh air. Loosen clothing. If the patient is unconscious place in the recovery position and monitor breathing. Apply artificial respiration only if the patient is not breathing. Seek medical attention if symptoms persist.

#### AFTER SKIN CONTACT

Mild irritation may occur: wash skin with running water.

#### AFTER EYE CONTACT

Possible irritation may occur. Remove contact lenses. Immediately flush with fresh water or sterile saline for at least 15 minutes. Get medical attention if any discomfort continues.

#### AFTER INGESTION

Nausea and stomach pain may occur with vomiting and diarrhoea. Convulsions or loss of consciousness may occur. **DO NOT INDUCE VOMITING.** Loosen clothing. If the patient is unconscious place in the recovery position and monitor breathing. Apply artificial respiration only if patient is not breathing. Seek medical attention.

#### SYMPTOMS AND EFFECTS

Irritating to eyes, respiratory tract and digestive tract. Ingestion may cause burning sensation, nausea and vomiting.

## 5 - FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA - SUITABLE

Sand. Alcohol resistant foam. Carbon dioxide. Dry chemical powder. Use water spray to cool containers.

### EXTINGUISHING MEDIA – UNSUITABLE

Water jet.

### SPECIAL RISKS

Specific Hazard(s): Flammable liquid. In combustion emits toxic fumes.

Explosion Hazards: Vapour may travel considerable distance to source of ignition and flash back. In combustion emits toxic fumes of carbon dioxide/carbon monoxide.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

### SPECIFIC METHOD(S) OF FIRE FIGHTING

Use water spray to cool unopened containers.

## 6 - ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations.

Vapours can accumulate in low areas.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### METHODS FOR CLEANING UP

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

## 7 - HANDLING AND STORAGE

### HANDLING

Avoid direct contact with the substance. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Use non-sparking tools.

### STORAGE

Store in cool place away from sources of ignition. Protect against direct sunlight. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Prevent the build up of electrostatic charge in the immediate area. Ensure lighting and electrical equipment are not a source of ignition.

## 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMITS

| Components | CAS-No. | Std | TWA – 8 hrs |                         | STEL 15 mins |  |
|------------|---------|-----|-------------|-------------------------|--------------|--|
|            |         |     |             |                         |              |  |
| Ethanol    | 64-17-5 | OES | 1000 ppm    | 1,920 mg/m <sup>3</sup> |              |  |
|            |         |     |             |                         |              |  |

### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection:** The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.

**Eye protection:** Safety glasses

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

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9 - PHYSICAL AND CHEMICAL PROPERTIES

|                            |                         |                                    |
|----------------------------|-------------------------|------------------------------------|
| Appearance Physical State: | Mobile liquid           |                                    |
| Colour:                    | Colourless              |                                    |
| Property                   | Value                   | Temperature or Pressure & comments |
| pH                         | N/A                     |                                    |
| BP/BP Range                | 78 – 100 °C             |                                    |
| MP/MP Range                | -113 °C                 |                                    |
| Flash Point                | 21 °C                   | Method: closed cup                 |
| Autoignition Temp          | 365 °C                  |                                    |
| Oxidizing Properties       | no data available       |                                    |
| Explosive Properties       | no data available       |                                    |
| Explosion Limits           | lower 3.3% ; upper 19%  |                                    |
| Vapour Pressure            | 5.81(kPa)               | 20 °C                              |
| SG/Density                 | 0.880 g/cm <sup>3</sup> | 20 °C                              |
| Partition Coefficient      | -0.32                   |                                    |
| Viscosity                  | no data available       |                                    |
| Vapour Density             | 1.5                     |                                    |
| Evaporation Rate           | no data available       |                                    |
| Decomposition Temp.        | no data available       |                                    |
| Surface Tension            | N/A                     |                                    |
| Conductivity               | N/A                     |                                    |
| Miscellaneous Data         | N/A                     |                                    |
| Solubility                 | Complete in water       |                                    |

## 10 - STABILITY AND REACTIVITY

### STABILITY

Stable at normal temperatures and when used as recommended: avoid heat, sparks, flames and moisture.

Materials to Avoid: oxidizing agents, concentrated nitric acid and sulphuric acid. Acetyl chloride, chromium trioxide, hydrogen peroxide, mercuric nitrate, antimony pentafluoride, perchloric acid, platinum, potassium, potassium-tert-butoxide, silver nitrate.  
Conditions to avoid: Reacts strongly with oxides.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Flammable gases/vapours/fumes of carbon monoxide (CO), hydrocarbons.

## 11 - TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

- Inhalation: High concentrations will cause irritation to the nose, throat and mucus membranes. The vapour is rapidly absorbed into the bloodstream via the lungs, but absorption of amounts which can give rise to systemic effects is unlikely because of irritant effects.  
Inhalation – Rat LC50:20: 20,000ppm/10hr.
- Skin: Unlikely to cause appreciable irritation, even on repeated contact. Unlikely to be absorbed through the skin in harmful amounts.
- Eyes: The hazard from exposure to the vapour of ethanol is small. High concentrations, however, will cause irritation to the eyes, and possible corneal damage.  
Chlorhexidine is highly irritant to eyes.
- Ingestion: Ethanol is toxic by oral ingestion. The fatal dose for the average adult is 300-400ml if consumed in less than one hour. It is rapidly absorbed into the bloodstream from the gastrointestinal tract and acts as a central nervous system depressant. Chronic intoxication may however produce damage to the optic nerve, liver, kidneys, heart muscle and brain.  
Oral – Rat LD50: 6200mg/kg ethanol, 2000mg/kg chlorhexidine.

## 12 - ECOLOGICAL INFORMATION

### ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)

#### BIO-ACCUMULATION

Ethanol is not expected to bio-accumulate. Data for chlorhexidine gluconate suggests that it is not likely to bio-accumulate.

#### ECOTOXICITY

Ethanol presents no appreciable risk to aquatic flora or fauna.  
Trout LC50, 96 hrs 11400 mg/L; Algae IC50, 72 hrs 5000mg/L.  
Chlorhexidine is toxic to aquatic organisms: acute fish toxicity:  
LC50 (96h) = 10.4mg/L; toxicity to algae: IC50 (72h) = 0.011mg/L; toxicity to crustaceans: EC50 (48h) > 0.05mg/L.

#### BIODEGRADEABILITY

Ethanol is readily biodegradable after 15 days in non-acclimated fresh water. 75% biodegradability occurs after 20 days in salt water.  
Chlorhexidine is expected to microbiologically degrade but data is inconclusive.

### 13 - DISPOSAL CONSIDERATIONS

#### PRODUCT

Incinerate in a suitable combustion chamber. Collect on absorbent material, place in cardboard kegs and incinerate. Do not allow run-off to sewer, waterway or ground.

DO NOT pour into drains. Obtain the services of a Waste Disposal Contractor for advice. Send a registered tip or disposal of in a safe area under controlled conditions of incineration to comply with local and national regulations.

#### CONTAMINATED PACKAGING

Dispose of as unused product.

### 14 - TRANSPORT INFORMATION



UK ROAD CLASS 3

PROPER SHIPPING NAME: ETHANOL (ETHYL ALCOHOL) OR ETHANOL SOLUTION

|                   |           |                  |                             |
|-------------------|-----------|------------------|-----------------------------|
| UN NO. ROAD       | 1170      | UK ROAD PACK     | GR. II                      |
| ADR CLASS NO.     | 3         | ADR CLASS        | Class 3: Flammable liquids. |
| ADR PACK GROUP    | II        | HAZARD NO. (ADR) | 33                          |
| ADR LABEL NO.     | 3         | HAZCHEM CODE:    | 2YE                         |
| CEFC TEC(R) NO.   | 30GF1-III | RID CLASS NO.    | 3                           |
| RID PACK GROUP    | II        | UN NO. SEA       | 1170                        |
| IMDG CLASS        | 3         | IMDG PACK GR.    | II                          |
| EMS               | F,E, S-D  | MFAG             | See Guide                   |
| MARNINE POLLUTANT | No.       | UN NO. AIR       | 1170                        |
| AIR CLASS         | 3         | AIR PACK GR.     | II                          |

Further information: None.

### 15 - REGULATORY INFORMATION

#### LABELLING ACCORDING TO EC DIRECTIVES



EC Label

#### R-phrase(s)

R11 Highly Flammable

#### S-phrase(s)

S2 Keep out of the reach of children,

S7 Keep container tightly closed.

S16 Keep away from sources of ignition – No smoking.

**COUNTRY SPECIFIC INFORMATION**

Refer to national legislation for specific measures that may be relevant.

**16 - OTHER INFORMATION**

**WARRANTY AND DISCLAIMER**

The Information given in this safety data sheet is based on knowledge available at the time of completion and is intended to describe the product only in terms of health and safety requirements. It does not signify any warranty with regard to specific properties or specifications. The company shall not be liable for any damage or injury resulting from the handling, contact with or incorrect use of this product.