

# 467651 PK4 Lyreco F/Chart Marker B/Tip Asstd

Lyreco Group (Lyreco France)

Chemwatch Hazard Alert Code: 3

Chemwatch: 4854-45  
Version No: 2.1.1.1  
Safety Data Sheet (Conforms to Regulations (EC) No 453/2010)

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Initial Date: Not Available  
S.REACH.GBR.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1. Product Identifier

|                               |  |
|-------------------------------|--|
| Product name                  | 467651 PK4 Lyreco F/Chart Marker B/Tip Asstd |
| Synonyms                      | Not Available                                |
| Other means of identification | Not Available                                |
| Index number                  | Not Applicable                               |

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

|                          |  |
|--------------------------|--|
| Relevant identified uses | Marker pen. NOTE: Information on this SDS refers to ink used in pens and markers, however, it applies to these inks in bulk. |
| Uses advised against     | Not Applicable   |

### 1.3. Details of the manufacturer/importer

|                         |                                       |
|-------------------------|---------------------------------------|
| Registered company name | Lyreco Group (Lyreco France)          |
| Address                 | Rue du 19 Mars 1962 Marly 9770 France |
| Telephone               | +33 3 27 23 64 00 (9a.m-5p.m. CET.)   |
| Fax                     | Not Available                         |
| Website                 | Not Available                         |
| Email                   | Not Available                         |

### 1.4. Emergency telephone number

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Association / Organisation        | Not Available                       |
| Emergency telephone numbers       | +33 3 27 23 64 00 (9a.m-5p.m. CET.) |
| Other emergency telephone numbers | Not Available                       |

## SECTION 2 HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**Not considered a dangerous mixture according to directive 1999/45/EC, Reg. (EC) No 1272/2008 (if applicable) and their amendments. Not classified as Dangerous Goods for transport purposes.**

#### CHEMWATCH HAZARD RATINGS

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 1   |     |
| Toxicity     | 0   |     |
| Body Contact | 0   |     |
| Reactivity   | 1   |     |
| Chronic      | 3   |     |

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

|  |  |
|--|--|
| DSD classification   | In case of mixtures, classification has been prepared by following DPD (Directive 1999/45/EC) and CLP Regulation (EC) No 1272/2008 regulations |
| DPD classification   | Not Applicable   |
| Classification according to regulation (EC) No 1272/2008 [CLP] | Not Applicable   |

### 2.2. Label elements

|                    |                |
|--------------------|----------------|
| CLP label elements | Not Applicable |
|--------------------|----------------|

SIGNAL WORD **NOT APPLICABLE**

#### Hazard statement(s)

Not Applicable

#### Supplementary statement(s)

|        |  |
|--------|--|
| EUH210 | Safety data sheet available on request |
|--------|--|

Continued...

**Precautionary statement(s) Prevention**

Not Applicable

|             |   |
|-------------|---|
| <b>P101</b> | If medical advice is needed, have product container or label at hand. |
|-------------|---|

**Precautionary statement(s) Response**

Not Applicable

**Precautionary statement(s) Storage**

Not Applicable

**Precautionary statement(s) Disposal**

Not Applicable

**2.3. Other hazards**

Cumulative effects may result following exposure\*.

May be harmful to the foetus/ embryo\*.

May affect fertility\*.

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****3.1. Substances**

See 'Composition on ingredients' in Section 3.2

**3.2. Mixtures**

| 1.CAS No<br>2.EC No<br>3.Index No<br>4.REACH No                          | %[weight] | Name                              | Classification according to directive 67/548/EEC [DSD] | Classification according to regulation (EC) No 1272/2008 [CLP] |
|--|-----------|-----------------------------------|--|--|
|  |           | ink containing,                   |  |  |
| 1.111-46-6<br>2.203-872-2<br>3.603-140-00-6<br>4.01-2119457857-21-XXXX   | 2.5-10    | <a href="#">diethylene glycol</a> | R22 <sup>[2]</sup>                                     | Acute Tox. 4 *; H302 <sup>[3]</sup>                            |
| 1.107-21-1<br>2.203-473-3<br>3.603-027-00-1<br>4.01-2119456816-28-XXXX   | 2.5-10    | <a href="#">ethylene glycol</a>   | R22 <sup>[2]</sup>                                     | Acute Tox. 4 *; H302 <sup>[3]</sup>                            |
| 1.Not Available<br>2.Not Available<br>3.Not Available<br>4.Not Available | >60       | ingredients,<br>non-hazardous     | Not Applicable   | Not Applicable   |

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I; 3. Classification drawn from EC Directive 1272/2008 - Annex VI  
4. Classification drawn from C&L

**SECTION 4 FIRST AID MEASURES****4.1. Description of first aid measures**

|                     |   |
|---------------------|---|
| <b>General</b>      | <ul style="list-style-type: none"> <li>▶ If swallowed do <b>NOT</b> induce vomiting.</li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul> <p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with water.</li> <li>▶ If irritation continues, seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul> |
| <b>Eye Contact</b>  | <p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with water.</li> <li>▶ If irritation continues, seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>  |
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>  |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>   |

**Ingestion**

- ▶ If swallowed do **NOT** induce vomiting.
- ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- ▶ Observe the patient carefully.
- ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- ▶ Seek medical advice.

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

See Section 11

**4.3. Indication of any immediate medical attention and special treatment needed**

To treat poisoning by the higher aliphatic alcohols (up to C7):

- ▶ Gastric lavage with copious amounts of water.
- ▶ It may be beneficial to instill 60 ml of mineral oil into the stomach.
- ▶ Oxygen and artificial respiration as needed.
- ▶ Electrolyte balance: it may be useful to start 500 ml. M/6 sodium bicarbonate intravenously but maintain a cautious and conservative attitude toward electrolyte replacement unless shock or severe acidosis threatens.
- ▶ To protect the liver, maintain carbohydrate intake by intravenous infusions of glucose.
- ▶ Haemodialysis if coma is deep and persistent. [GOSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, Ed 5]

**BASIC TREATMENT**

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Anticipate and treat, where necessary, for seizures.
- ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- ▶ Give activated charcoal.

**ADVANCED TREATMENT**

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ If the patient is hypoglycaemic (decreased or loss of consciousness, tachycardia, pallor, dilated pupils, diaphoresis and/or dextrose strip or glucometer readings below 50 mg), give 50% dextrose.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

**EMERGENCY DEPARTMENT**

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Acidosis may respond to hyperventilation and bicarbonate therapy.
- ▶ Haemodialysis might be considered in patients with severe intoxication.
- ▶ Consult a toxicologist as necessary. BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For C8 alcohols and above.

Symptomatic and supportive therapy is advised in managing patients.

**SECTION 5 FIREFIGHTING MEASURES****5.1. Extinguishing media**

- ▶ Alcohol stable foam.

**5.2. Special hazards arising from the substrate or mixture****Fire Incompatibility**

- ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

**5.3. Advice for firefighters****Fire Fighting**

- ▶ Alert Fire Brigade and tell them location and nature of hazard.

**Fire/Explosion Hazard**

- ▶ Combustible.

**SECTION 6 ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

See section 8

**6.2. Environmental precautions**

See section 12

**6.3. Methods and material for containment and cleaning up**

|                     |                                |
|---------------------|--------------------------------|
| <b>Minor Spills</b> | ▶ Remove all ignition sources. |
| <b>Major Spills</b> | Moderate hazard.               |

#### 6.4. Reference to other sections

|  |   |
|--|---|
|  | Personal Protective Equipment advice is contained in Section 8 of the MSDS. |
|--|---|

## SECTION 7 HANDLING AND STORAGE

### 7.1. Precautions for safe handling

|                                      |   |
|--------------------------------------|---|
| <b>Safe handling</b>                 | ▶ Limit all unnecessary personal contact. |
| <b>Fire and explosion protection</b> | See section 5                             |
| <b>Other information</b>             | ▶ Store in original containers.           |

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

|                                |  |
|--------------------------------|--|
| <b>Suitable container</b>      | ▶ Metal can or drum<br>▶ Packaging as recommended by manufacturer. |
| <b>Storage incompatibility</b> | ▶ Avoid strong acids, bases.                                       |

### PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

### 7.3. Specific end use(s)

See section 1.2

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Control parameters

#### DERIVED NO EFFECT LEVEL (DNEL)

Not Available

#### PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA


| Source   | Ingredient        | Material name  | TWA  | STEL  | Peak          | Notes         |
|--|-------------------|--|--|---|---------------|---------------|
| UK Workplace Exposure Limits (WELs)  | diethylene glycol | 2,2'-Oxydiethanol                                    | 101 mg/m <sup>3</sup> / 23 ppm                       | Not Available                                       | Not Available | Not Available |
| UK Workplace Exposure Limits (WELs)  | ethylene glycol   | Ethane-1,2-diol particulate / Ethane-1,2-diol vapour | 10 mg/m <sup>3</sup> / 52 mg/m <sup>3</sup> / 20 ppm | 10 mg/m <sup>3</sup> / 4 mg/m <sup>3</sup> / 40 ppm | Not Available | Sk            |
| European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English) | ethylene glycol   | Ethylene glycol                                      | 52 mg/m <sup>3</sup> / 20 ppm                        | 104 mg/m <sup>3</sup> / 40 ppm                      | Not Available | Skin          |
| EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)                     | ethylene glycol   | Ethylene glycol                                      | 52 mg/m <sup>3</sup> / 20 ppm                        | 104 mg/m <sup>3</sup> / 40 ppm                      | Not Available | Skin          |

#### EMERGENCY LIMITS

| Ingredient        | Material name     | TEEL-1     | TEEL-2 | TEEL-3  |
|-------------------|-------------------|------------|--------|---------|
| diethylene glycol | Diethylene glycol | 6.9155 ppm | 80 ppm | 250 ppm |
| ethylene glycol   | Ethylene glycol   | 10 ppm     | 40 ppm | 60 ppm  |

| Ingredient                 | Original IDLH | Revised IDLH  |
|----------------------------|---------------|---------------|
| diethylene glycol          | Not Available | Not Available |
| ethylene glycol            | Not Available | Not Available |
| ingredients, non-hazardous | Not Available | Not Available |

### 8.2. Exposure controls

|  |  |
|--|--|
| <b>8.2.1. Appropriate engineering controls</b> | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. |
| <b>8.2.2. Personal protection</b>              |                     |

|                                |   |
|--------------------------------|---|
| <b>Eye and face protection</b> | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields</li> <li>▶ Chemical goggles.</li> </ul>   |
| <b>Skin protection</b>         | See Hand protection below   |
| <b>Hands/feet protection</b>   | The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. |
| <b>Body protection</b>         | See Other protection below  |
| <b>Other protection</b>        | ▶ Overalls.   |
| <b>Thermal hazards</b>         | Not Available   |

## Recommended material(s)

### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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| Material | CPI |
|----------|-----|
| NITRILE  | A   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## Respiratory protection

Type A-P Filter of sufficient capacity.

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator  |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 10 x ES                      | A-AUS P2             | -                    | A-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | A-AUS / Class 1 P2   | -                       |
| up to 100 x ES                     | -                    | A-2 P2               | A-PAPR-2 P2 ^           |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## 8.2.3. Environmental exposure controls

See section 12

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

| Appearance  | Coloured liquid with a characteristic odour; mixes with water. |  |                      |
|---|--|--|----------------------|
| <b>Physical state</b>                               | Liquid   | <b>Relative density (Water = 1)</b>            | Not Available        |
| <b>Odour</b>  | Not Available  | <b>Partition coefficient n-octanol / water</b> | Not Available        |
| <b>Odour threshold</b>                              | Not Available  | <b>Auto-ignition temperature (°C)</b>          | 225 (ignition temp.) |
| <b>pH (as supplied)</b>                             | 7.5  | <b>Decomposition temperature</b>               | Not Available        |
| <b>Melting point / freezing point (°C)</b>          | Not Available  | <b>Viscosity (cSt)</b>                         | Not Available        |
| <b>Initial boiling point and boiling range (°C)</b> | 100  | <b>Molecular weight (g/mol)</b>                | Not Applicable       |
| <b>Flash point (°C)</b>                             | 111  | <b>Taste</b>                                   | Not Available        |
| <b>Evaporation rate</b>                             | Not Available  | <b>Explosive properties</b>                    | Not Available        |
| <b>Flammability</b>                                 | Not Applicable   | <b>Oxidising properties</b>                    | Not Available        |
| <b>Upper Explosive Limit (%)</b>                    | 53.0   | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available        |
| <b>Lower Explosive Limit (%)</b>                    | 0.7  | <b>Volatile Component (%vol)</b>               | Not Available        |
| <b>Vapour pressure (kPa)</b>                        | 2.3  | <b>Gas group</b>                               | Not Available        |
| <b>Solubility in water (g/L)</b>                    | Miscible   | <b>pH as a solution(1%)</b>                    | Not Available        |
| <b>Vapour density (Air = 1)</b>                     | Not Available  | <b>VOC g/L</b>                                 | Not Available        |

### 9.2. Other information

|  |               |
|--|---------------|
|  | Not Available |
|--|---------------|

## SECTION 10 STABILITY AND REACTIVITY

|   |   |
|---|---|
| <b>10.1.Reactivity</b>                          | See section 7.2                                       |
| <b>10.2.Chemical stability</b>                  | ▶ Unstable in the presence of incompatible materials. |
| <b>10.3. Possibility of hazardous reactions</b> | See section 7.2                                       |
| <b>10.4. Conditions to avoid</b>                | See section 7.2                                       |

|  |                 |
|--|-----------------|
| 10.5. Incompatible materials           | See section 7.2 |
| 10.6. Hazardous decomposition products | See section 5.3 |

## SECTION 11 TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

|              |  |
|--------------|--|
| Inhaled      | The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).   |
| Ingestion    | The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion".  |
| Skin Contact | The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models).   |
| Eye          | Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). |
| Chronic      | Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.   |

| 467651 PK4 Lyreco F/Chart Marker B/Tip Asstd | TOXICITY  | IRRITATION                             |
|--|---|--|
|  | Not Available   | Not Available                          |
| diethylene glycol                            | TOXICITY  | IRRITATION                             |
|  | Dermal (rabbit) LD50: 11890 mg/kgd <sup>[2]</sup>   | Eye (rabbit) 50 mg mild                |
|  | Oral (rat) LD50: 12000 mg/kg <sup>[2]</sup>   | Skin (human): 112 mg/3d-I mild         |
|  |   | Skin (rabbit): 500 mg mild             |
| ethylene glycol                              | TOXICITY  | IRRITATION                             |
|  | Dermal (rabbit) LD50: 9530 mg/kgD <sup>[2]</sup>  | Eye (rabbit): 100 mg/1h - mild         |
|  | Inhalation (rat) LC50: 50.1 mg/L/8 hr <sup>[2]</sup>  | Eye (rabbit): 12 mg/m <sup>3</sup> /3D |
|  | Oral (rat) LD50: 4700 mg/kgd <sup>[2]</sup>   | Eye (rabbit): 1440mg/6h-moderate       |
|  |   | Eye (rabbit): 500 mg/24h - mild        |
|  |   | Skin (rabbit): 555 mg(open)-mild       |
| <b>Legend:</b>                               | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's msds unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |  |

|  |  |
|--|--|
| 467651 PK4 Lyreco F/Chart Marker B/Tip Asstd | No significant acute toxicological data identified in literature search.   |
| DIETHYLENE GLYCOL                            | The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.   |
| ETHYLENE GLYCOL                              | For ethylene glycol:<br>Ethylene glycol is quickly and extensively absorbed through the gastrointestinal tract.<br>[Estimated Lethal Dose (human) 100 ml; RTECS quoted by Orica] Substance is reproductive effector in rats (birth defects). Mutagenic to rat cells. |

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity                    | ☹ | Carcinogenicity          | ☹ |
| Skin Irritation/Corrosion         | ☹ | Reproductivity           | ☹ |
| Serious Eye Damage/Irritation     | ☹ | STOT - Single Exposure   | ☹ |
| Respiratory or Skin sensitisation | ☹ | STOT - Repeated Exposure | ☹ |
| Mutagenicity                      | ☹ | Aspiration Hazard        | ☹ |

**Legend:** ✔ - Data required to make classification available  
✘ - Data available but does not fill the criteria for classification  
☹ - Data Not Available to make classification

### CMR STATUS

|             |                 |   |      |
|-------------|-----------------|---|------|
| <b>SKIN</b> | ethylene glycol | European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) - Skin | Skin |
|-------------|-----------------|---|------|

## SECTION 12 ECOLOGICAL INFORMATION

### 12.1. Toxicity

**DO NOT** discharge into sewer or waterways.

### 12.2. Persistence and degradability

| Ingredient        | Persistence: Water/Soil   | Persistence: Air            |
|-------------------|---------------------------|-----------------------------|
| diethylene glycol | LOW                       | LOW                         |
| ethylene glycol   | LOW (Half-life = 24 days) | LOW (Half-life = 3.46 days) |

**12.3. Bioaccumulative potential**

| Ingredient        | Bioaccumulation |
|-------------------|-----------------|
| diethylene glycol | LOW (BCF = 180) |
| ethylene glycol   | LOW (BCF = 200) |

**12.4. Mobility in soil**

| Ingredient        | Mobility       |
|-------------------|----------------|
| diethylene glycol | HIGH (KOC = 1) |
| ethylene glycol   | HIGH (KOC = 1) |

**12.5. Results of PBT and vPvB assessment**

|                                  | P             | B             | T             |
|----------------------------------|---------------|---------------|---------------|
| Relevant available data          | Not Available | Not Available | Not Available |
| PBT and vPvB Criteria fulfilled? | Not Available | Not Available | Not Available |

**12.6. Other adverse effects**

No data available

**SECTION 13 DISPOSAL CONSIDERATIONS****13.1. Waste treatment methods**

|                              |  |
|------------------------------|--|
| Product / Packaging disposal | ▶ Recycle wherever possible or consult manufacturer for recycling options. |
| Waste treatment options      | Not Available  |
| Sewage disposal options      | Not Available  |

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

|                  |                |
|------------------|----------------|
| Marine Pollutant | NO             |
| HAZCHEM          | Not Applicable |

**Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

|                                    |  |
|------------------------------------|--|
| 14.1. UN number                    | Not Applicable   |
| 14.2. Packing group                | Not Applicable   |
| 14.3. UN proper shipping name      | Not Applicable   |
| 14.4. Environmental hazard         | No relevant data   |
| 14.5. Transport hazard class(es)   | Class : Not Applicable<br>Subrisk : Not Applicable                       |
| 14.6. Special precautions for user | Special provisions : Not Applicable<br>Limited quantity : Not Applicable |

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

|                                    |  |
|------------------------------------|--|
| 14.1. UN number                    | Not Applicable   |
| 14.2. Packing group                | Not Applicable   |
| 14.3. UN proper shipping name      | Not Applicable   |
| 14.4. Environmental hazard         | No relevant data   |
| 14.5. Transport hazard class(es)   | ICAO/IATA Class : Not Applicable<br>ICAO / IATA Subrisk : Not Applicable<br>ERG Code : Not Applicable  |
| 14.6. Special precautions for user | Special provisions : Not Applicable<br>Cargo Only Packing Instructions : Not Applicable<br>Cargo Only Maximum Qty / Pack : Not Applicable<br>Passenger and Cargo Packing Instructions : Not Applicable<br>Passenger and Cargo Maximum Qty / Pack : Not Applicable<br>Passenger and Cargo Limited Quantity Packing Instructions : Not Applicable<br>Passenger and Cargo Limited Maximum Qty / Pack : Not Applicable |

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

|                                    |                    |                |
|------------------------------------|--------------------|----------------|
| 14.1. UN number                    | Not Applicable     |                |
| 14.2. Packing group                | Not Applicable     |                |
| 14.3. UN proper shipping name      | Not Applicable     |                |
| 14.4. Environmental hazard         | Not Applicable     |                |
| 14.5. Transport hazard class(es)   | IMDG Class         | Not Applicable |
|                                    | IMDG Subrisk       | Not Applicable |
| 14.6. Special precautions for user | EMS Number         | Not Applicable |
|                                    | Special provisions | Not Applicable |
|                                    | Limited Quantities | Not Applicable |

**Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

|                                    |                     |                |
|------------------------------------|---------------------|----------------|
| 14.1. UN number                    | Not Applicable      |                |
| 14.2. Packing group                | Not Applicable      |                |
| 14.3. UN proper shipping name      | Not Applicable      |                |
| 14.4. Environmental hazard         | No relevant data    |                |
| 14.5. Transport hazard class(es)   | Not Applicable      | Not Applicable |
|                                    |                     |                |
| 14.6. Special precautions for user | Classification code | Not Applicable |
|                                    | Limited quantity    | Not Applicable |
|                                    | Equipment required  | Not Applicable |
|                                    | Fire cones number   | Not Applicable |

**Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code**

| Source  | Ingredient      | Pollution Category |
|---|-----------------|--------------------|
| IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk | ethylene glycol | Y                  |

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

|  |  |
|--|--|
| diethylene glycol(111-46-6) is found on the following regulatory lists | "European Customs Inventory of Chemical Substances ECICS (English)", "EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)", "UK Workplace Exposure Limits (WELs)", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31"   |
| ethylene glycol(107-21-1) is found on the following regulatory lists   | "EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Lithuanian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Slovak)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Polish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (French)", "European Customs Inventory of Chemical Substances ECICS (English)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Slovenian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Swedish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Italian)", "European Trade Union Confederation (ETUC) Priority List for REACH Authorisation", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Danish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Maltese)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Latvian)", "UK Workplace Exposure Limits (WELs)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (German)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Spanish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Finnish)", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Greek)", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Portuguese)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Hungarian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Romanian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Czech)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Bulgarian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Dutch)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Estonian)" |

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 67/548/EEC, 1999/45/EC, 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Regulation (EU) No 453/2010, Regulation (EC) No 1907/2006, Regulation (EC) No 1272/2008 and their amendments as well as the following British legislation: - The Control of Substances Hazardous to Health Regulations (COSHH) 2002 - COSHH Essentials - The Management of Health and Safety at Work Regulations 1999

**15.2. Chemical safety assessment**

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

**ECHA SUMMARY**

| Ingredient | CAS number | Index No | ECHA Dossier |
|------------|------------|----------|--------------|
|------------|------------|----------|--------------|



|                   |          |              |                       |
|-------------------|----------|--------------|-----------------------|
| diethylene glycol | 111-46-6 | 603-140-00-6 | 01-2119457857-21-XXXX |
|-------------------|----------|--------------|-----------------------|

| Harmonisation (C&L Inventory) | Hazard Class and Category Code(s)                               | Pictograms Signal Word Code(s) | Hazard Statement Code(s)     |
|-------------------------------|---|--------------------------------|------------------------------|
| 1                             | Acute Tox. 4  | GHS07, Wng                     | H302                         |
| 2                             | Acute Tox. 4, STOT RE 2, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2 | Wng, GHS08, Dgr                | H302, H373, H319, H336, H315 |

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

| Ingredient      | CAS number | Index No     | ECHA Dossier          |
|-----------------|------------|--------------|-----------------------|
| ethylene glycol | 107-21-1   | 603-027-00-1 | 01-2119456816-28-XXXX |

| Harmonisation (C&L Inventory) | Hazard Class and Category Code(s)   | Pictograms Signal Word Code(s) | Hazard Statement Code(s)                             |
|-------------------------------|---|--------------------------------|--|
| 1                             | Acute Tox. 4  | GHS07, Wng                     | H302   |
| 2                             | Acute Tox. 4, Skin Irrit. 2, Muta. 1B, Repr. 1B, STOT SE 1, STOT RE 1, Aquatic Chronic 3, Eye Irrit. 2, Org. Perox. G | Wng, GHS08, Dgr                | H302, H319, H332, H340, H360, H370, H372, H412, H315 |

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

## SECTION 16 OTHER INFORMATION

### Full text Risk and Hazard codes

|             |   |
|-------------|---|
| <b>H302</b> | Harmful if swallowed  |
| <b>H315</b> | Causes skin irritation  |
| <b>H319</b> | Causes serious eye irritation                                     |
| <b>H332</b> | Harmful if inhaled  |
| <b>H336</b> | May cause drowsiness or dizziness                                 |
| <b>H340</b> | May cause genetic defects   |
| <b>H360</b> | May damage fertility or the unborn child                          |
| <b>H370</b> | Causes damage to organs   |
| <b>H372</b> | Causes damage to organs through prolonged or repeated exposure    |
| <b>H373</b> | May cause damage to organs through prolonged or repeated exposure |
| <b>H412</b> | Harmful to aquatic life with long lasting effects                 |
| <b>R22</b>  | Harmful if swallowed.   |

### Other information

#### DSD / DPD label elements

Not Applicable

Relevant risk statements are found in section 2.1

|                                |                |
|--------------------------------|----------------|
| <b>Indication(s) of danger</b> | Not Applicable |
|--------------------------------|----------------|

#### SAFETY ADVICE

|            |                                |
|------------|--------------------------------|
| <b>S02</b> | Keep out of reach of children. |
|------------|--------------------------------|

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

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