

## 4270544 Lyreco Highlighter Red

Lyreco Group (Lyreco France)

Chemwatch: 35-3309  
 Version No: 3.1.1.1  
 Safety Data Sheet (Conforms to Regulations (EC) No 453/2010)

Print Date: 20/11/2013  
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 S.REACH.GBR.EN

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

#### 1.1. Product Identifier

Product name:	4270544 Lyreco Highlighter Red
Chemical Name:	Not Applicable
Synonyms:	Product Code: 4270544
Proper shipping name:	Not Applicable
Chemical formula:	Not Applicable
Other means of identification:	Not Available
CAS number:	Not Applicable
EC number:	Not Applicable
Index number:	Not Applicable
REACH registration number:	Not Applicable

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

Relevant identified uses:	Highlighter., 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 supplier of the safety data sheet

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:	+33 3 27 23 64 00 (9a.m-5p.m. CET.)

### SECTION 2 Hazards identification

#### 2.1. Classification of the substance or mixture

Not considered a dangerous mixture according to directive 1999/45/EC, Reg.

#### ChemWatch Hazard Ratings

	Rating	Min/Max	Legend
Flammability	1	Blue	0 = Minimum
Toxicity	2	Yellow	1 = Low
Body Contact	0	Blue	2 = Moderate
Reactivity	1	Blue	3 = High
Chronic	3	Red	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

Not Applicable

#### Classification according to regulation (EC) No 1272/2008 [CLP]:

**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

#### 2.2. Label elements

##### CLP label elements

Not Applicable

Signal word: NOT APPLICABLE

##### Hazard statement(s):

Not Applicable

##### Supplementary statement(s):

Not Applicable

##### Precautionary statement(s): Prevention

Not Applicable

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

##### Precautionary statement(s): Response

Not Applicable

##### Precautionary statement(s): Storage

Not Applicable

**Precautionary statement(s): Disposal**

Not Applicable

**DSD / DPD label elements**

Not Applicable

Relevant risk statements are found in section 2.1

**Indication(s) of danger:** Not Applicable

**Safety advice:**

S02 Keep out of reach of children.

**2.3. Other hazards**

Cumulative effects may result following exposure\*.

May affect fertility\*.

May be harmful to the foetus/ embryo\*.

**SECTION 3 Composition / information on ingredients**

**3.1. Substances**

See 'Composition on ingredients' in Section 3.2

**3.2. Mixtures**

1. CAS No 2. EC No 3. Index No 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. 64-17-5 2. 200-578-6 3. 603-002-00-5 4. 01-2119457610-43-XXXX	2.5-10	<a href="#">ethanol</a>	R11 <sup>[2]</sup>	Flam. ; H225 <sup>[3]</sup>
1. 107-21-1 2. 203-473-3 3. 603-027-00-1 4. 01-2119456816-28-XXXX	2.5-10	<a href="#">ethylene glycol</a>	R22 <sup>[2]</sup>	Acute Tox. ; H302 <sup>[3]</sup>
1. Not Available 2. Not Available 3. Not Available 4. Not Available	>60	ingredients determined to be 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

**SECTION 4 First aid measures**

**4.1. Description of first aid measures**

**General:**

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.
- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

If this product comes in contact with eyes:

- Wash out immediately with water.
- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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. [GOSSELIN, 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 CURRRANCE, 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. If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

#### Eye Contact:

If this product comes in contact with eyes:

- Wash out immediately with water.
- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### Skin Contact:

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

#### Inhalation:

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

#### Ingestion:

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

## 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. [GOSSELIN, 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 CURRRANCE, 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

### Minor Spills:

- Remove all ignition sources.

### Major Spills:

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

### Safe handling

- Limit all unnecessary personal contact.

### Fire and explosion protection

See section 5

### Other information

- Store in original containers.

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

### Suitable container:

- Metal can or drum

### Storage incompatibility:

Alcohols

### Package Material Incompatibilities:

## 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)

Exposure Pattern	Workers	General Population
Long term - dermal, systemic effects	Not Available	Not Available
Long term - inhalation, systemic effects	Not Available	Not Available
Long term - oral, systemic effects	Not Available	Not Available
Long term - dermal, local effects	Not Available	Not Available
Long term - inhalation, local effects	Not Available	Not Available
Short term - dermal, systemic effects	Not Available	Not Available
Short term - inhalation, systemic effects	Not Available	Not Available
Short term - oral, systemic effects	Not Available	Not Available
Short term - dermal, local effects	Not Available	Not Available
Short term - inhalation, local effects	Not Available	Not Available

### Predicted No Effect Level (PNEC)

Compartment	Value
Fresh Water	Not Applicable
Marine Water	Not Applicable
Aqua	Not Applicable
Fresh water sediment	Not Applicable
Marine water sediment	Not Applicable
Soil	Not Applicable
STP	Not Applicable
ORAL	Not Applicable

### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs)	ethanol	Ethanol	1920 (mgm3) / 1000 (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 (mgm3) / 52 (mgm3) / 20 (ppm)	10 (mgm3) / 4 (mgm3) / 40 (ppm)	Not Available	Sk
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)	ethylene glycol	Ethylene glycol	52 (mgm3) / 20 (ppm)	104 (mgm3) / 40 (ppm)	Not Available	Skin
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	ethylene glycol	Ethylene glycol	52 (mgm3) / 20 (ppm)	104 (mgm3) / 40 (ppm)	Not Available	Skin

Emergency Limits				
Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
ethanol	1000(ppm)	3000(ppm)	3300(ppm)	3300(ppm)
ethylene glycol	10(ppm)	39.4(ppm)	40(ppm)	60(ppm)
Ingredient	Original IDLH		Revised IDLH	
ethanol	15,000(ppm)		3,300 [LEL](ppm)	

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.

### 8.2.2. Personal protection



#### Eye and face protection:

- Safety glasses with side shields

#### Skin protection:

See Hand protection below

#### Hand protection:

Wear protective gloves, e.g. PVC.

#### Body protection:

See Other protection below

#### Other protection:

- Overalls.

#### Thermal hazards:

#### Recommended material(s):

##### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: 4270544 Lyreco Highlighter Red

Material	CPI
NEOPRENE	A
NITRILE	A
NITRILE+PVC	A
PE/EVAL/PE	A
PVC	A
NATURAL RUBBER	B
NATURAL+NEOPRENE	B

\* CPI - Chemwatch Performance Index

#### Respiratory protection:

Type A-P Filter of sufficient capacity.

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1 P2	-
up to 50	1000	-	A-AUS / Class 1 P2
up to 50	5000	Airline *	-
up to 100	5000	-	A-2 P2
up to 100	10000	-	A-3 P2
100+			Airline**

\* - Continuous Flow \*\* - Continuous-flow or positive pressure demand

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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), 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

Red liquid with a characteristic odour; mixes with water.

Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	4.3	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	3
Initial boiling point and boiling range (°C)	100	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	2.3	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution(1%)	Not Available
Vapour density (Air = 1)	Not Available		

### 9.2. Other information

Not Available

## SECTION 10 Stability and reactivity

### 10.1. Reactivity:

See section 7.2

### 10.2. Chemical stability:

- Presence of incompatible materials.

### 10.3. Possibility of hazardous reactions:

See section 7.2

### 10.4. Conditions to avoid:

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

#### 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:

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

TOXICITY	IRRITATION
<b>4270544 Lyreco Highlighter Red</b>	
Not Available	Not Available
<b>ethanol</b>	
Inhalation (rat) LC50: 20,000 ppm/10h	Eye (rabbit): 500 mg SEVERE
Inhalation (rat) LC50: 64000 ppm/4h	Eye (rabbit):100mg/24hr-moderate
Oral (rat) LD50: 7060 mg/kg	Skin (rabbit):20 mg/24hr-moderate
	Skin (rabbit):400 mg (open)-mild
Not Available	Not Available
<b>ethylene glycol</b>	
Dermal (rabbit) LD50: 9530 mg/kg	Eye (rabbit): 100 mg/1h - mild
Inhalation (rat) LC50: 50100 mg/m <sup>3</sup> /8 hr	Eye (rabbit): 12 mg/m <sup>3</sup> /3D
Oral (rat) LD50: 4700 mg/kg	Eye (rabbit): 1440mg/6h-moderate
	Eye (rabbit): 500 mg/24h - mild
	Skin (rabbit): 555 mg(open)-mild
Not Available	Not Available

\* Value obtained from manufacturer's msds

### 4270544 Lyreco Highlighter Red

No significant acute toxicological data identified in literature search.

#### ETHANOL

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).

#### ETHYLENE GLYCOL

For ethylene glycol:

[Estimated Lethal Dose (human) 100 ml; RTECS quoted by Orica] Substance is reproductive effector in rats (birth defects). Mutagenic to rat cells.

<b>Acute Toxicity:</b>	Not Applicable	<b>Carcinogenicity:</b>	Not Applicable
<b>Skin Irritation/Corrosion:</b>	Not Applicable	<b>Reproductivity:</b>	Not Applicable
<b>Serious Eye Damage/Irritation:</b>	Not Applicable	<b>STOT - Single Exposure:</b>	Not Applicable
<b>Respiratory or Skin sensitisation:</b>	Not Applicable	<b>STOT - Repeated Exposure:</b>	Not Applicable
<b>Mutagenicity:</b>	Not Applicable	<b>Aspiration Hazard:</b>	Not Applicable

### CMR STATUS

SKIN		
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**

### 12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

### 12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
------------	-----------------

Not Available

Not Available

**12.4. Mobility in soil**

Ingredient	Mobility
Not Available	Not Available

**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:****Sewage disposal options:**

No relevant data

**SECTION 14 Transport information****Labels Required:**

Marine Pollutant: NO

HAZCHEM:

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

14.1. UN number	Not Available	14.4. Packing group	Not Available
14.2. UN proper shipping name	Not Applicable	14.5. Environmental hazard	No relevant data
14.3. Transport hazard class(es)	Class:	14.6. Special precautions for user	Hazard identification (Kemler)
	Subrisk:		Classification code
			Hazard Label
			Special provisions
			Limited quantity

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

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

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

14.1. UN number	Not Available	14.4. Packing group	Not Available
14.2. UN proper shipping name		14.5. Environmental hazard	No relevant data
14.3. Transport hazard class(es)	IMDG Class:	14.6. Special precautions for user	EMS Number:
	IMDG Subrisk:		Special provisions:
			Limited Quantities:

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

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

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

Source	Ingredient	Pollution Category	Residual Concentration - Outside Special Area (% w/w)	Residual Concentration
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances	ethanol	Not Available	Not Available	Not Available
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances	ethylene glycol	Not Available	Not Available	Not Available

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

#### ethanol(64-17-5) is found on the following regulatory lists

"World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (French)", "World Anti-Doping Agency - The 2012 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (Korean)", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Competition (German)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "International Air Transport Association (IATA) Dangerous Goods Regulations", "FisherTransport Information", "Sigma-AldrichTransport Information", "Acros Transport Information", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "IOFI Global Reference List of Chemically Defined Substances", "International Fragrance Association (IFRA) Survey: Transparency List", "FEMA Generally Recognized as Safe (GRAS) Flavoring Substances 23 - Examples of FEMA GRAS Substances with Non-Flavor Functions", "OECD List of High Production Volume (HPV) Chemicals", "International Council of Chemical Associations (ICCA) - High Production Volume List", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "UK Workplace Exposure Limits (WELs)", "Europe ECHA Registered Substances - Classification and Labelling - DSD-DPD", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31", "Europe European Commission Database of flavouring substances", "Europe SCCNFP First Update of the Inventory of Ingredients Employed in Cosmetic Products - Section II: Perfume and Aromatic Raw Materials", "European Union Register of Feed Additives pursuant to Regulation (EC) No 1831/2003 - Annex I: List of Additives", "EU list of flavouring substances which can be used in food - Regulation EU 872/2012", "European Union (EU) Inventory of Fragrance Ingredients (Perfume and Aromatic Raw Materials)", "Europe Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food - Annex I: Substances", "European Chemical Agency (ECHA) Classification & Labelling Inventory - Notified classification and labelling according to CLP criteria", "European Union (EU) Inventory of Ingredients used in Cosmetic Products", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "Europe Substances Listed in EU Directives on Plastics in Contact with Food", "European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification", "Europe European Chemicals Agency (ECHA) REACH Registration Numbers", "Europe European Chemicals Agency (ECHA) List of substances identified for registration in 2010", "Europe European Chemicals Agency (ECHA) List of Registered Phase-in Substances", "Europe European Chemicals Agency (ECHA) List of Registered Substances", "Europe ECHA Registered Substances - Classification and Labelling - GHS", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Maritime Dangerous Goods Requirements (IMDG Code)", "UK Dangerous Goods Emergency Action Code List 2013", "ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways", "EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles", "European Union (EU) Directive 2012/18/EU of 4 July 2012 on the control of major-accident hazards involving dangerous substances", "UK The Environmental Protection (Prescribed Processes and Substances) Regulations 1991 - Release into Land Prescribed Substances", "European Union (EU) Directive 2008/1/EC concerning integrated pollution prevention and control, Annex III", "UK Pollution Inventory - Form PI-3 (EPTR): Pollution Inventory reporting - E-PRTR - Part 2 Releases to air", "UK Pollution Inventory - Form PI-2: Pollution Inventory reporting - Part 2 Releases to air", "UK Pollution Inventory - Form PI-1: Pollution Inventory reporting - Part 2 Releases to air", "Scotland Pollution Inventory", "Europe Pollutant Release and Transfer Register (E-PRTR) (166/2006) - Threshold Quantities", "Europe Pollutant Emission Register (EPER) (2000/479/EC) - Threshold Quantities", "IMO IBC Code Chapter 17: Summary of minimum requirements", "OSPAR National List of Candidates for Substitution - Norway"

#### ethylene glycol(107-21-1) is found on the following regulatory lists

"IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "FisherTransport Information", "Sigma-AldrichTransport Information", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals", "International Council of Chemical Associations (ICCA) - High Production Volume List", "IMO IBC Code Chapter 17: Summary of minimum requirements", "UK Workplace Exposure Limits (WELs)", "Europe ECHA Registered Substances - Classification and Labelling - DSD-DPD", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31", "Europe Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food - Annex I: Substances", "European Chemical Agency (ECHA) Classification & Labelling Inventory - Notified classification and labelling according to CLP criteria", "European Union (EU) Inventory of Ingredients used in Cosmetic Products", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "Europe Substances Listed in EU Directives on Plastics in Contact with Food", "European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification", "Europe European Chemicals Agency (ECHA) REACH Registration Numbers", "Europe European Chemicals Agency (ECHA) List of substances identified for registration in 2010", "European Trade Union Confederation (ETUC) Priority List for REACH Authorisation", "Chemwatch Candidate List of Very High Concern - List of Substance Subject to Authorization", "Europe European Chemicals Agency (ECHA) List of Registered Phase-in Substances", "Europe European Chemicals Agency (ECHA) List of Registered Substances", "Europe ECHA Registered Substances - Classification and Labelling - GHS", "EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "UK The Environmental Protection (Prescribed Processes and Substances) Regulations 1991 - Release into Land Prescribed Substances", "European Union (EU) Directive 2008/1/EC concerning integrated pollution prevention and control, Annex III", "OSPAR National List of Candidates for Substitution - Norway", "International Numbering System for Food Additives"

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
ethanol	64-17-5	603-002-00-5	01-2119457610-43-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2	GHS02, Dgr	H225
2	Flam. Liq. 2, Eye Irrit. 2, Aquatic Chronic 2, STOT SE 3, Repr. 2, STOT RE 1, Not Classified, Skin Irrit. 2, Acute Tox. 4, STOT SE 2, Muta. 1B, Repr. 1A, Acute Tox. 3, STOT SE 1, Met. Corr. 1, Skin Corr. 1B, Aquatic Acute 1, Aquatic Chronic 1	Dgr, GHS01, GHS09, GHS08, Wng, GHS06, GHS05	H225, H319, H411, H340, H304, H372, H315, H220, H360, H301, H311, H331, H370
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, STOT RE 2, Skin Irrit. 2, Not Classified, Muta. 1B, Repr. 1B, STOT SE 1, STOT RE 1, Aquatic Chronic 3, Eye Irrit. 2	Wng, GHS08, Dgr	H302, H319, H332, H340, H360, H370, H372, H412, H315

## SECTION 16 Other information

### Other information

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.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

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

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