

151136 Lyreco Permanent Marker C/Tip Green

Lyreco Group (Lyreco France)

Chemwatch: 4854-67

Version No: 2.1.1.1

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:	151136 Lyreco Permanent Marker C/Tip Green
Chemical Name:	Not Applicable
Synonyms:	151205 PK4 Lyreco Perm Marker B/Tip Asstd Col
Proper shipping name:	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)
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:	Permanent Marker., 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 59770 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

Considered a dangerous mixture according to Directive 1999/45/EC, Reg.

ChemWatch Hazard Ratings

Flammability	2		0 = Minimum 1 = Low 2 = Moderate 3 = High 4 = Extreme
Toxicity	2		
Body Contact	3		
Reactivity	1		
Chronic	2		

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^[1]:

R67	Vapours may cause drowsiness and dizziness.
R41	Risk of serious damage to eyes.
R10	Flammable.

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

Classification according to regulation (EC) No 1272/2008 [CLP]^[1]:

STOT - SE (Narcosis) Category 3, Flammable Liquid Category 3, Serious Eye Damage Category 1

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



Signal word: DANGER

Hazard statement(s):

H226	Flammable liquid and vapour
H318	Causes serious eye damage
H336	May cause drowsiness or dizziness

Supplementary statement(s):

Not Applicable

Precautionary statement(s): Prevention

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.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s): Response

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes.
P310	Immediately call a POISON CENTER/doctor/physician/first aider
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P370+P378	In case of fire: Use... to extinguish.

Precautionary statement(s): Storage

P403+P233	Store in a well-ventilated place.
P403+P235	Store in a well-ventilated place.
P405	Store locked up.

Precautionary statement(s): Disposal

(null)	(null)
P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration

DSD / DPD label elements



Relevant risk statements are found in section 2.1

Indication(s) of danger: Xi

Safety advice:

S02	Keep out of reach of children.
S23	Do not breathe gas/fumes/vapour/spray.
S25	Avoid contact with eyes.
S26	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S39	Wear eye/face protection.
S40	To clean the floor and all objects contaminated by this material, use water and detergent.
S46	If swallowed, seek medical advice immediately and show this container or label.
S56	Dispose of this material and its container at hazardous or special waste collection point.
S64	If swallowed, rinse mouth with water (only if the person is conscious).

2.3. Other hazards

Inhalation, skin contact and/or ingestion may produce health damage*.
 May produce discomfort of the respiratory system and skin*.
 Cumulative effects may result following exposure*.
 Limited evidence of a carcinogenic effect*.
 Repeated exposure potentially causes skin dryness and cracking*.

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]
1. 107-98-2 2. 203-539-1, 216-455-5, 215-306-1 3. 603-064-00-3, 603-106-00-0 4. 01-2119457435-35-XXXX	25-50	propylene glycol monomethyl ether - alpha isomer	R10, R67, R61, R37/38, R41 ^[2]	Flam. , STOT SE 3, Repr. , Skin Irrit. , Eye Dam. ; H226, H336, H360D ***, H335, H315, H318 ^[3]
1. 71-23-8 2. 200-746-9 3. 603-003-00-0 4. 01-2119486761-29-XXXX	25-50	n-propanol	R11, R41, R67 ^[2]	Flam. , Eye Dam. , STOT SE 3; H225, H318, H336 ^[3]

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 or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.
- **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.

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Treat symptomatically. 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 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. If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- 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 the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact:

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

Inhalation:

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

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

Treat symptomatically.

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

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- 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.
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- 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.
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- Acidosis may respond to hyperventilation and bicarbonate therapy.
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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:

- Liquid and vapour are flammable.

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:

- Clear area of personnel and move upwind.

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**

- DO NOT**

Fire and explosion protection

See section 5

Other information

- Store in original containers in approved flammable liquid storage area.

7.2. Conditions for safe storage, including any incompatibilities**Suitable container:**

- Packing as supplied by manufacturer.

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)	propylene glycol monomethyl ether - alpha isomer	1-Methoxypropan-2-ol	375 (mgm3) / 100 (ppm)	560 (mgm3) / 150 (ppm)	Not Available	Sk
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)	propylene glycol monomethyl ether - alpha isomer	1-Methoxypropanol-2	375 (mgm3) / 100 (ppm)	568 (mgm3) / 150 (ppm)	Not Available	Skin
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	propylene glycol monomethyl ether - alpha isomer	1-Methoxypropan-2-ol	375 (mgm3) / 100 (ppm)	568 (mgm3) / 150 (ppm)	Not Available	Skin
UK Workplace Exposure Limits (WELs)	n-propanol	Propan-1-ol	500 (mgm3) / 200 (ppm)	625 (mgm3) / 250 (ppm)	Not Available	Sk

Emergency Limits

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
propylene glycol monomethyl ether - alpha isomer	100(ppm)	150(ppm)	300(ppm)	750(ppm)
n-propanol	200(ppm)	250(ppm)	250(ppm)	800(ppm)

Ingredient	Original IDLH	Revised IDLH
n-propanol	4,000(ppm)	800(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 chemical 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: 151136 Lyreco Permanent Marker C/Tip Green

Material	CPI
NEOPRENE	A
NITRILE	B
PVC	B

* CPI - Chemwatch Performance Index

Respiratory protection:

Type A 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 5 x ES	A-AUS / Class 1	-	A-PAPR-AUS / Class 1
up to 25 x ES	Air-line*	A-2	A-PAPR-2
up to 50 x ES	-	A-3	-
50+ x ES	-	Air-line**	-

* - Continuous-flow; ** - Continuous-flow or positive pressure demand

^ - 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(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

Green flammable liquid with a characteristic odour; does not mix with water.

Physical state	Liquid	Relative density (Water = 1)	0.83
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	287
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	4
Initial boiling point and boiling range (°C)	96	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	23	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	13.5	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	2.1	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	1.9 @ 20C	Gas group	Not Available
Solubility in water (g/L)	Immiscible	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 elevated temperatures.

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:

Inhalation of vapours may cause drowsiness and dizziness.

Ingestion:

Effects on the nervous system characterise over-exposure to higher aliphatic alcohols.

Skin Contact:

Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.

Eye:

When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.

Chronic:

On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.

TOXICITY	IRRITATION
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151136 Lyreco Permanent Marker C/Tip Green

Not Available	Not Available
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propylene glycol monomethyl ether - alpha isomer

Dermal (rabbit) LD50: 13000 mg/kg	Eye (rabbit) 230 mg mild
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Inhalation (rat) LC50: 10000 ppm/5 h.	Eye (rabbit) 500 mg/24 h.
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Oral (rat) LD50: 3739 mg/kg	Eye (rabbit): 100 mg SEVERE
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	Skin (rabbit) 500 mg open - mild
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Not Available	Not Available
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n-propanol

Dermal (rabbit) LD50: 5040 mg/kg	Eye (rabbit): 20 mg/24h moderate
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Oral (rat) LD50: 1870 mg/kg	Eye (rabbit): 4 mg open SEVERE
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	Skin (rabbit): 20 mg/24h moderate
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	Skin (rabbit): 500 mg open mild
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Not Available	Not Available
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* Value obtained from manufacturer's msds

151136 Lyreco Permanent Marker C/Tip Green

No significant acute toxicological data identified in literature search.

PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER

for propylene glycol ethers (PGEs):

NOTE: For PGE - mixed isomers: Exposure of pregnant rats and rabbits to the substance did not give rise to teratogenic effects at concentrations up to 3000 ppm.

N-PROPANOL

The material may produce severe irritation to the eye causing pronounced inflammation.

Acute Toxicity:	Not Applicable	Carcinogenicity:	Not Applicable
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Skin Irritation/Corrosion:	Not Applicable	Reproductivity:	Not Applicable
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Serious Eye Damage/Irritation:	Serious Eye Damage Category 1	STOT - Single Exposure:	STOT - SE (Narcosis) Category 3
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Respiratory or Skin sensitisation:	Not Applicable	STOT - Repeated Exposure:	Not Applicable
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Mutagenicity:	Not Applicable	Aspiration Hazard:	Not Applicable
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CMR STATUS

SKIN

propylene glycol monomethyl ether - alpha isomer	European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) - Skin	Skin
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SECTION 12 Ecological information

12.1. Toxicity

DO NOT

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
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Not Available	Not Available	Not Available
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12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
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Not Available	Not Available
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12.4. Mobility in soil

Ingredient	Mobility
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Not Available	Not Available
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12.5. Results of PBT and vPvB assessment

	P	B	T
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Relevant available data	Not Available	Not Available	Not Available
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PBT and vPvB Criteria fulfilled?	Not Available	Not Available	Not Available
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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: •3YE; •3Y

Land transport (ADR)

14.1. UN number	1263	14.4. Packing group	III
14.2. UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)	14.5. Environmental hazard	No relevant data

14.3. Transport hazard class(es)	Class:	3	14.6. Special precautions for user	Hazard identification (Kemler)	33; 30
	Subrisk:			Classification code	F1
				Hazard Label	3
				Special provisions	163 640F 650; 163 640H 650; 163 640E 650; 163 640G 650
			limited quantity	5 L	

Air transport (ICAO-IATA / DGR)

14.1. UN number	1263	14.4. Packing group	III		
14.2. UN proper shipping name	Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base); Paint related material (including paint thinning or reducing compounds)	14.5. Environmental hazard	No relevant data		
14.3. Transport hazard class(es)	ICAO/IATA Class:	3	14.6. Special precautions for user	Special provisions:	A3A72
	ICAO / IATA Subrisk:			Cargo Only Packing Instructions:	366
	ERG Code:	3L		Cargo Only Maximum Qty / Pack:	220 L
				Passenger and Cargo Packing Instructions:	355
			Passenger and Cargo Maximum Qty / Pack:	60 L	
			Passenger and Cargo Limited Quantity Packing Instructions:	Y344	
			Passenger and Cargo Maximum Qty / Pack:	10 L	

Sea transport (IMDG-Code / GGVSee)			
14.1. UN number	1263	14.4. Packing group	III
14.2. UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	14.5. Environmental hazard	No relevant data
14.3. Transport hazard class(es)	IMDG Class: 3 IMDG Subrisk:	14.6. Special precautions for user	EMS Number: F-E,S-E Special provisions: 163 223 955 Limited Quantities: 5 L

Inland waterways transport (ADN)			
14.1. UN number	1263	14.4. Packing group	III
14.2. UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa , boiling point of more than 35° C).; PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa).; PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35° C).	14.5. Environmental hazard	No relevant data
14.3. Transport hazard class(es)	3:	14.6. Special precautions for user	Classification code C9; F1 Limited quantity 5 L Equipment required PP, EP; PP, EX, A Fire cones number 0

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	n-propanol	Not Available	Not Available	Not Available

SECTION 15 Regulatory information

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

propylene glycol monomethyl ether - alpha isomer(107-98-2) is found on the following regulatory lists

"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", "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 SCCNFP First Update of the Inventory of Ingredients Employed in Cosmetic Products - Section I: Perfume and Aromatic Raw Materials", "European Union (EU) Inventory of Fragrance Ingredients (Perfume and Aromatic Raw Materials)", "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", "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)", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "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", "International Chemical Secretariat (ChemSec) SIN List ("Substitute It Now!)", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances (updated by ATP: 31) - Reprotoxic Substances", "EU Cosmetic Directive 76/768/EEC Annex II: List of Substances which must not form part of the Composition of Cosmetic Products (English)", "EU Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products - Annex II - List of Substances Prohibited in Cosmetic Products", "EU REACH Regulation (EC) No 1907/2006 - Annex XVII (Appendix 6) Toxic to reproduction: category 1B (Table 3.1)/category 2 (Table 3.2)", "Europe AeroSpace and Defence Industries Association of Europe (ASD) REACH Implementation Working Group Priority Declarable Substances List (PDSL)", "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", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "OSPAR National List of Candidates for Substitution - Norway", "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", "EU

n-propanol(71-23-8) 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", "IOFI Global Reference List of Chemically Defined Substances", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals", "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 European Commission Database of flavouring substances", "EU list of flavouring substances which can be used in food - Regulation EU 872/2012", "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 Air Transport Association (IATA) Dangerous Goods Regulations", "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", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "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", "OSPAR National List of Candidates for Substitution - Norway"

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
propylene glycol monomethyl ether - alpha isomer	107-98-2	603-064-00-3, 603-106-00-0	01-2119457435-35-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
2	Flam. Liq. 3, STOT SE 3, Not Classified, Eye Irrit. 2, Skin Irrit. 2, Eye Dam. 1, Repr. 1B, Flam. Liq. 2	GHS02, Wng, GHS08, GHS03, GHS05, Dgr	H371, H225, H226, H315, H318, H360, H370
1	Flam. Liq. 3, STOT SE 3, Skin Irrit. 2, Eye Dam. 1, Repr. 1B	GHS07, GHS02, Wng, GHS05, GHS08, Dgr	H226, H336, H315, H318, H335, H360
Ingredient	CAS number	Index No	ECHA Dossier
n-propanol	71-23-8	603-003-00-0	01-2119486761-29-XXXX
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
2	Flam. Liq. 2, Eye Dam. 1, STOT SE 3, Acute Tox. 4, Flam. Liq. 3, Not Classified	GHS02, GHS05, Dgr, GHS08	H225, H318, H336, H302, H335
1	Flam. Liq. 2, Eye Dam. 1, STOT SE 3	GHS02, GHS05, Dgr	H225, H318, H336

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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