

REVISION DATE: 01/01/2012

Material Safety Data Sheet

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

· Trade name: Lyreco Liquid Ink Rollerballs

Medium point Black 993.751 Fine point Black 4.159.403

Medium point Red 993.773 Fine point Red 4.159.425

Medium point Blue 993.762 Fine point Blue 4.159.414

Medium point Green 1.881.922 Fine point Green 4.159.436

· Relevant identified uses of the substance or mixture and uses advised against
Currently no such applications are identified

· Application of the substance / the preparation water based rollerball ink

· Manufacturer/Supplier:

LYRECO

Rue du 19 mars 1962

59770 Marly

France

Tel: +33(0) 3 27 23 64 00

msds@lyreco.com

2 Composition/information on ingredients

· Chemical characterization: Mixtures

Mixture of the following substances, containing non-hazardous substances and colouring agents.

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

· Dangerous components:

107-21-1 ethanediol 25-50%

· Additional information: For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- Classification of the substance or mixture
- Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Harmful if swallowed.
- Information concerning particular hazards for human and environment:
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· Classification system:
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- Label elements
- Labelling according to EU guidelines:
The product has been classified and marked in accordance with directives on hazardous materials.

· Code letter and hazard designation of product:Harmful

· Hazard-determining components of labelling: ethanediol

· Risk phrases: Harmful if swallowed.

· Safety phrases: Do not breathe vapour.

Wear suitable protective clothing.

This material and its container must be disposed of as hazardous waste.

· Classification system: NFPA ratings (scale 0 - 4)

Health = 2

Fire = 1

Reactivity = 0

4 First aid measures

- Description of first aid measures
- General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: Immediately call a doctor.
- Information for doctor:
· Most important symptoms and effects, both acute and delayed
No further relevant information available.
- Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- Handling:
 - Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
 - Information about protection against explosions and fires: No special measures required.
 - Conditions for safe storage, including any incompatibilities
- Storage:
 - Requirements to be met by storerooms and receptacles: No special requirements.
 - Information about storage in one common storage facility: Not required.
 - Further information about storage conditions: None.
 - Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace:
 - 107-21-1 ethanediol (25-50%)
TLV Short-term value: C 100 mg/m³
H
 - 25322-68-3 polyethylene glycol ($\leq 2.5\%$)
WEEL 10 mg/m³
- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment:
 - General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
 - Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
 - Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for

the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Fluid

Colours: Black, Red, Blue & Green

- Odour: Characteristic

- Odour threshold: Not determined.

- Important information on protection of health and environment, and on safety. -

- pH-value at 25°C (77°F): 7.6

- Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 100°C (212°F)

- Flash point: 111°C (232°F)

- Ignition temperature: 410°C (770°F)

- Decomposition temperature: Not determined.

- Auto igniting: Product is not self-igniting.

- Danger of explosion: Product does not present an explosion hazard.

- Explosion limits:

Lower: 3.2 Vol %

Upper: 53.0 Vol %

- Vapour pressure at 20°C (68°F): 0.1 hPa

- Density: Not determined.

- Relative density Not determined.

- Vapour density Not determined.

- Evaporation rate Not determined.

- Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

- Segregation coefficient (n-octanol/water): Not determined.
- Viscosity:
Dynamic at 25°C (77°F): 9 mPas
Kinematic: Not determined.
- Solvent content:
Organic solvents: 36 %
Water: 40 %
Solids content: 10 %
- Other information No further relevant information available.

10 Stability and reactivity

- Reactivity
- Chemical stability
- Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
- LD/LC50 values that are relevant for classification:
107-21-1 ethanediol
Oral LD50 5840 mg/kg (rat)
Dermal LD50 9530 mg/kg (rbt)
- 95-14-7 benzotriazole
Oral LD50 560 mg/kg (rat)
Dermal LD50 >10000 mg/kg (B)
Inhalative LC50/4 h 1.4 mg/l (rat)
- Primary irritant effect:
- on the skin: No irritant effect.
- on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful

12 Ecological information

- Toxicity
 - Aquatic toxicity:
95-14-7 benzotriazole
LC50 / 96h 25 mg/l (bluegill sunfish)
 - Persistence and degradability No further relevant information available.
 - Behavior in environmental systems:
 - Bioaccumulative potential No further relevant information available.
 - Mobility in soil No further relevant information available.
 - Additional ecological information:
 - General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 - Results of PBT and vPvB assessment
 - PBT: Not applicable.
 - vPvB: Not applicable.
 - Other adverse effects No further relevant information available.
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13 Disposal considerations

- Waste treatment methods
- Recommendation:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- DOT regulations:
- Hazard class: -
- Land transport ADR/RID (cross-border):
- ADR/RID class: -
- Maritime transport IMDG:
- IMDG Class: -
- Marine pollutant: No
- Air transport ICAO-TI and IATA-DGR:
- ICAO/IATA Class: -
- Packaging group: -
- Special precautions for user Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

15 Regulatory information

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

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

107-21-1 ethanediol

· TSCA (Toxic Substances Control Act):

107-21-1 ethanediol

25322-68-3 polyethylene glycol

95-14-7 benzotriazole

17372-87-1 C. I. ACID RED 87

7732-18-5 water, distilled, conductivity or of similar purity

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

107-21-1 ethanediol A4

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

· Hazard symbols:

Harmful

- Hazard-determining components of labelling:
ethanediol
- Risk phrases:
Harmful if swallowed.
- Safety phrases:
Do not breathe vapour.
Wear suitable protective clothing.
This material and its container must be disposed of as hazardous waste.
- National regulations:
- Technical instructions (air):
Class Share in %
NK 25-50
- Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

NOTES

THESE PRODUCTS MUST BE USED ONLY IN THE PROPER WAY FOR PROPER USE.

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