

Safety Data Sheet

acc. to 1907/2006/EC, Article 31



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Issue Date: 8/25/1998

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1 Identification of Substance

Product Identifier

Trade Name: PRR-SJ7D LY-564.645, LY-5.366.176

Registration Number

The ingredients of this ink have been pre-registered according to 1907/2006/EC (Reach)

Relevant identified uses of the substance or mixture and uses advised against

Currently no such applications are identified

Application of the Substance/the Preparation Ball Pen ink

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

SUHAN Corporation

17, Cheongyong-1 gil, Hoengseong-eup,

Hoengseong-gun, Gangwon-do, Korea

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Further Information Obtainable From:

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Emergency Telephone Number:

EMERGENCY Tel. No. for US and Canada:

(800) 535-5053 (INFOTRAC)

All other countries

001-352-323-3500 (INFOTRAC)

2 Hazards Identification

Classification of the substance or mixture

Hazard Description:



Information Pertaining to Particular Dangers for Man and Environment:

Exposure limits in air

Health effects or risks from exposure: Non-hazardous

Symptoms of over exposure for each potential route of exposure:

Harmful if swallowed.

Irritating to skin

Irritating to eyes

Classification System:

The classification was made according to the latest editions of international

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substances lists and expanded upon from company and literature data.

NFPA Ratings (scale 0-4)



Health = 1

Fire = 1

Reactivity = 0

HMIS Ratings (scale 0-4)



Health = 1

Fire = 1

Reactivity = 0

3 Composition/Information on Ingredients

Chemical Characterization: Mixtures

Mixture, of the following substances: containing "Hazardous", "non-hazardous" substances and coloring agents. According to Regulations (EC) No. 1907/2006 In addition Classification according to EU directives 67/548/EEC or 1999/45/EC

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

Dangerous Components:

| Chemical Name | CAS Number | Content (W/W) |
|--|---|--------------------|
| Ethylene Glycol Monophenyl Ether | 122-99-6 | >= 40.0 - <= 55.0% |
| Diethylene Glycol Monophenyl Ether | 104-68-7 | >= 2.0 - <= 5.0% |
| Propylene Glycol | 000057-55-6 | >= 0.2- <= 5.0% |
| Special polyol Resin and Polymer blend | NA & 9003-39-8 | >= 15.0 - <= 25.0% |
| Solvent Black 46 | 65294-17-9 | >= 10.0 - <= 25.0% |
| Solvent Black 7 | 8005-02-5 | >= 1.0 - <= 10.0% |
| Proprietary pH buffering agent Blend | 102-60-3, 61791-14-8 6178846-3, 25322-68-3 | >= 1.0 - <= 8.0% |

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

4 First Aid Measures

Description of First Aid Measures

General Information:

Exposure limits in air.

Acute: None known

Chronic: None known

After Inhalation:

Little hazard exists at room temperature. Remove individual to an uncontaminated atmosphere and administer oxygen or artificial respiration as needed.

After Skin Contact:

No expected absorption through skin. Remove contaminated clothing and wash affected area with plenty of water and soap. Colors the skin and may cause drying.

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After Eye Contact:

Flush eyes for at least 15 minutes with large amounts of water. Get medical attention if eye pain persists.

After Swallowing:

No expected issues. Call a physician.

Information for Doctor:

Most important symptoms and affects, both acute and delayed

No further relevant information is available.

Indication of any immediate medical attention and special treatment needed

Do not induce vomiting unless directed to do so by medical personnel.

5 Fire Fighting Measures

Extinguishing Media

Suitable Extinguishing Agents: Use fire fighting measures that suit the environment. Water, foam, carbon dioxide are effective agents.

Special hazards arising from the substance or mixture: No further relevant information is available.

Advice for Fire Fighters

Protective Equipment: Fire fighters should be fitted with self-contained breathing apparatus to avoid inhalation of products of combustion.

6 Accidental Release Measures

Personal precautions, protective equipment and, emergency procedures: Not required.

Environmental Precautions:

Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/surface or ground water.

Methods and Material for Containment and Cleaning Up:

Soak up all spills on paper, sawdust, earth or other suitable absorbents and scoop into closed containers. Wash down spill area with plenty of water.

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 information on disposal.

7 Handling and Storage

Handling:

Precautions for Safe Handling:

Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Local exhaust as needed to remove fumes if any.

Information about fire and explosion protection: No special measure required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by Storerooms and Receptacles: Do not store outside. Keep container closed when not in use.

Information about Storage in One Common Storage Facility: Not required.

Further Information about Storage Conditions: Do not expose to extreme temperatures.

Specific End Use(s): No further relevant information is available.

8 Exposure Controls/Personal Protection

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Additional Information about Design of Technical Facilities: No further data; see item 7.

Control Parameters

Components with Limit Values that Require Monitoring at the Workplace: None.

Additional Information: The lists that were valid during the creation were used as basis.

Exposure Controls

Personal Protection Equipment:

General Protective and Hygienic Measures:

Keep away from foodstuffs, beverages, and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory Protection:



Necessary only if the ink is heated. Use an approved respirator for organic vapors and fumes.

Protection of Hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/the substance/the preparation.

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 cannot be calculated in advance and has therefore to be checked prior to the application. Medical quality plastic gloves are used in the making of the ink.

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:



Tightly sealed goggles

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9 Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

General Information

Appearance:

Form:

Thick Black paste

Color:

Black

Odor:

Mild

Odor Threshold:

Not determined

Important Information on Protection of Health and Environment and on Safety

Not Applicable

pH @ 25° C:

7.5 ± 1

Change in Condition

Melting Point/Melting Range:

N/A

Boiling Point/Boiling Range:

> 471° F

Flash Point:

> 250° F

Flammable limits in air

Lower: 0.95% (V) Literature

Upper: No tested data available

Ignition Temperature:

923° F

Decomposition Temperature:

Not determined

Self-Igniting:

No

Danger of Explosion:

None known

Vapor Pressure:

0.004 MMHg @25° C

Density:

Not determined

Relative Density:

Not determined

Vapor Density:

(Air=1) 4.77 @25° C

Evaporation Rate (Butyl Acetate = 1):

Approx. 0.005

Solubility in/Miscibility with Water:

2.5%

Segregation Coefficient (n-octanol/water):

Not determined

Specific Gravity:

(Water = 1) 1.130 - 1.190

Surface Tension @ 25° C:

35 Min

Viscosity:

Dynamic @ 25° C:

9,500 - 12,500 CPS

Kinematic:

Not determined

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Other Information

No further relevant information available

10 Stability and Reactivity

Reactivity

Chemical Stability

Thermal Decomposition/Conditions to be Avoided:

No thermal decomposition known. No conditions to be avoided. Avoid strong oxidizing agent materials.

Possibility of Hazardous Reactions: This ink is stable. There are no known dangerous reactions.

Conditions to Avoid: No further relevant information available.

Incompatible Materials: No further relevant information available.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxides and oxides of nitrogen. No hazardous polymerization will occur.

11 Toxicological Information

Information on Toxicological Effects

Acute Toxicity:

None known.

Primary Irritant Effect:

On the Skin: Irritant to skin.

On the Eyes: Irritant to eyes.

Sensitization: No sensitizing effects known.

Additional Toxicological Information:

Harmful

Irritant

12 Ecological Information

Toxicity

Aquatic Toxicity: Toxic for any animals/fish, etc.

Persistence and Degradability: No further relevant information available.

Behavior in Environmental Systems: No further relevant information available.

Bioaccumulative Potential: No further relevant information available.

Mobility in Soil: No further relevant information available.

Additional Ecological Information:

General Notes:

Slightly hazardous in water. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water and also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms.

Results of PBT and vPvB Assessment

PBT: Not applicable.

vPvB: Not applicable.

Other Adverse Effects: No further relevant information available.

13 Disposal Considerations

Waste Treatment Methods

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Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Remove to an approved landfill site. Dispose of all wastes in accordance with federal, state, and local regulations.

European Waste Catalog

Uncleaned Packaging:

Recommendation: Disposal must be made according to official regulations.

14 Transport Information

This material is not flammable or hazardous.

Shipping code: 55

Land Transport ADR/RID (cross-border)

ADR/RID Class:

Maritime Transport IMDG

IMDG Class:

Maritime Pollutant: No

Not classified as a dangerous good under transport regulations (Non-Hazardous)

Air Transport ICAO-TI and IATA-DGR

IATA/ICAO Class:

Packaging Group:

Not classified as a dangerous good under transport regulations (Non-hazardous)

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

National Regulations:

Technical Instructions (air):

Water Hazard Class: Water hazard class (self assessment): hazardous for water.

Chemical Safety Assessment: A Chemical Safety Assessment has not been carried out.

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

None of the ingredients are listed.

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Chemicals Known to Cause Cancer.

Proposition 65

None of the ingredients are listed.

Chemicals Known to Cause Reproductive Toxicity for Females:

None of the ingredients listed.

Chemicals Known to Cause Reproductive Toxicity for Males:

None of the ingredients listed.

Chemicals Known to Cause Developmental Toxicity:

None of the ingredients listed.

Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

16 Other Information

Product Related Hazard Information:

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



Harmful
Dangerous for the environment

Risk Phrases:

Harmful if swallowed.

Irritating to skin.

Risk of serious damage to eyes.

Toxic to aquatic organisms.

Safety Phrases:

Do not breathe vapor.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves and eye/face protection.

Use appropriate container to avoid environmental contamination.

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End of MSDS