**** MATERIAL SAFETY DATA SHEET ****

1. **Product and Company Identification**

   **Product Name:** DZ73N Copper extraction reagent

   **General Use:** Extract copper from copper ore

   **Company:** Zhengzhou Deyuan Fine Chemicals Co., Ltd

   **Emergency Telephone No.:** 18937129559

2. **Composition**

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
<th>EINECS#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50849-47-3</td>
<td>DZ988N Copper extraction reagent</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>59344-62-6</td>
<td></td>
<td>15%</td>
<td>256-798-8</td>
</tr>
<tr>
<td>8008-20-6</td>
<td></td>
<td>50%</td>
<td>232-366-4</td>
</tr>
</tbody>
</table>

3. **Hazards Identification**

   **Eye:** Stimulating

   **Skin:** Irritation

   **Ingestion:** Causing Vomiting

   **Inhalation:** Mild respiratory infections

   **Chronic:** Long time or frequency contact can lead to Nausea, headache, vomiting, shortness of breath, wheezing.

   **Combustion hazard:** Flammable, mixer of its vapor and air can form explosive mixture.

4. **First Aid Measures**

   **Eyes:** Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

   **Skin:** If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

   **Ingestion:** Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

   **Inhalation:** Leave the scene, go to the place with fresh air.

   **Notes to Physician:** Must wear good protective measure when contacting.

5. **Fire Fighting Measures**

   **Flash point:** 80°C

   **Auto ignition temperature:** No data available

   **Suitable extinguishing media:** Carbon Dioxide (CO2)
Unsuitable extinguishing media: High volume water jet.

Specific hazards during firefighting: Do not allow run-off from fire-fighting to enter drains or water courses.

Special protective equipment for fire-fighters: Wear self contained breathing apparatus for the fighting if necessary

Further information: Its vapor and air can form explosive mixture, encounter caused an explosion of the burning flame, high heat, strong reaction can occur with antioxidants. The steam is heavier than air, can spread far place in low, meet fire leads back to the burning. Velocity too fast, easy to generate and accumulate static electricity. As far as possible, remove the container from fire to empty place, keep container cooling, if the container suddenly abnormal sound or abnormal phenomenon, should immediately leave. Available foam, carbon dioxide, dry powder fire extinguishing

6. 应急泄漏措施/Accidental Release Measures

Personal precautions: Use personal protective equipment. Ensure adequate ventilation.
Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material. (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/ national regulations). Keep in suitable, closed containers for disposal.

7. 操作和储存/Handling and Storage

Handling:
Advice on safe handling: Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure-obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulation.
Advice on protection against fire and explosion: Do not spray on an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Storage:
Requirements for storage area and containers: No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations/working materials must completely with the technological safety standards.

8. 接触控制 – 个人防护/Exposure Controls – Personal Protection

Engineering measures:
Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material, applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal
If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal Protective Equipment**

- **Eye:** Wear chemical safety goggles
- **Skin:** Wear appropriate protective gloves to prevent skin exposure
- **Clothing:** Wear appropriate protective clothing to prevent skin exposure
- **Respirators:** Wear appropriate respirators where necessary

9. **Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Oily liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Fluid amber oil liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Fragrant smell of benzene</td>
</tr>
<tr>
<td>pH</td>
<td>Faintly acid</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt;300°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;80°C</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.91-0.93</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water, soluble in ethanol, ether, organic solvent, etc.</td>
</tr>
</tbody>
</table>

10. **Stability and Reactivity**

**Chemical stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

- Conditions to avoid: Heat, flames and sparks
- Material to avoid: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
- Hazardous combustion or decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxides.

11. **Toxicological Information**

<table>
<thead>
<tr>
<th>Toxicological Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute inhalation toxicity</td>
<td>LD 50: &gt;5000 mg/kg unknown</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50 dermal: &gt;5000 mg/kg method: acute toxicity estimate</td>
</tr>
<tr>
<td>Skin irritation/corrosion</td>
<td>No data available</td>
</tr>
<tr>
<td>Eye stimulation/corrosion</td>
<td>No data available</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>-------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Breathing or skin allergy</td>
<td>No data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity:</td>
<td>No date available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Reproductive toxicity:</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific target organ toxicity- single exposure</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific target organ toxicity- repeated exposure</td>
<td>No data available</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>An anesthetic effect of inhale oral or absorbed through the skin. The vapor or mist can irritate eyes, skin, mucous membrane and respiratory, it can cause nervous system disorders, and have an anesthetic effect for long time contact</td>
</tr>
</tbody>
</table>

**12. Ecological Information**

Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach ground water, must not be disposed together with household garbage. Do not allow product to reach sewage system.

**13. Disposal Consideration**

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA or other state and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law require disposal at a licensed hazardous waste disposal facility.

**Product:** The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, water ways or ditches with chemical or used container. Send to a licensed waste management company.

**Contaminated packaging:** Empty remaining contents, dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.
14. 运输信息/Transport Information
Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the MSDS and the bill of lading.
UN 2308  CL: 9
PACKING GROUP: III

15. 法规信息/Regulatory Information
The safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Safety, health and environmental regulations/ legislation specific for the substance or mixture:
No data available

Chemical safety Assessment: No data available.

16. 其他信息 Other Information
The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additive to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

For and on behalf of
Zhengzhou Deyuan Fine Chemicals Co., Ltd
鄭州市德源精细化学品有限公司

[Signature(s)]