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Safety Data Sheet for Chemical Products

Part 1 PRODUCT AND COMPANY IDENTIFICATION

Chinese Name of Chemical Products: Polyurethane coatings

Local Name and Trade Name of Chemical Products: Polyurethane Paints

English Name of Chemical Products: Polyurethane coatings

Company Name: Shanghai Zhanchen Coating Co., Ltd

Address: 8555 Songze Rd. Qingpu Industrial Parks, Qingpu District, Shanghai

Postal code: 201707

E-Mail address:

Tel./Fax Number: 021-69212683

Emergency Telephone Number: 021-69212501

Technological Instructions Code:

Effective Date: Year Month Day

National Emergency Telephone Number:

Part 2 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Products Name: Polyurethane coatings mixture

Injurant Ingredient Toluene concentration ≤5% CAS No. 108-88-3

Injurant Ingredient Xylene concentration ≤20% CAS No. 1330-20-7

Injurant Ingredient Hexanethylene concentration ≤8% CAS No. 108-94-1

Injurant Ingredient Butyl Acetate concentration ≤15% CAS No. 123-86-4

Injurant Ingredient Propylene glycol methyl ether acetate concentration ≤8% CAS No. 108-65-6

Part 3 HAZARDS IDENTIFICATION

Hazard Class or Division: 3, flammable liquid

Route(s) of Entry: Inhalation, Skin, Ingestion

Health Hazards: Lower toxicity. In addition, it can damage mucosal and irritate respiratory tract, high concentration vapor has anesthetic effect, inhaling low concentration vapor will result in chronic poisoning, poor appetite, and anemia. It will dissolve the fat of skin once adsorbed by the skin.

Environment Hazards: The product is harmful to environment, especially to water and soil.

Fire and Explosion Hazards: Flammable. Its vapor mixed with air can form explosible hybrids , which will be fired by open flame or high temperature.

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Part 4 FIRST-AID MEASURES

Skin Contact:: Take contaminated clothing off, wash with water.

Eye Contact : Be flushed with running water for at least 15 minutes. Get medical attention.

Inhalation: Remove to fresh air quickly, and ensure good ventilation of the workplace.

Ingestion: Drink vast fresh soybean milk or milk. Induce vomiting. Call a physician.

Part 5 FIRE-FIGHTING MEASURES

Harm Characteristics: Its vapor mixed with air can form explosible hybrids which will be fired by naked flame or high temperature, and will explode in a limited space.

Harmful Burning Products: CO, CO_2, C

Extinguishing media: Dry powder fire extinguisher, CO_2 fire extinguisher, CCl_4 fire extinguisher.

Fire Fighting Notes: Full protective clothing should be worn by firefighters. Do not extinguish with water

Part 6 ACCIDENTAL RELEASE MEASURES

Emergency Handling: In the case of a small quantity of leakage, soak up with inert materials or sand. In case of large quantities of leakage, handlers are asked to wear self-contained breathing apparatus, and collect them into a sealed container and send to manufacturer or waste treatment station for Incineration.

Part 7 HANDLING AND STORAGE

Operation Notes: All Equipments should be equipped with anti-explosion device, dispersing kettle must be equipped with electrostatic proof wire and earthed to avoid fire resulting from discharging electricity.

To prevent air with high concentration of organic compound from blasting, ventilating and dedusting unit should be equipped in workplace.

Storage Precaution: Store in cool and ventilating bursary with room temperature lower than 40℃.
Keep far away from fire and heat. Container must be sealed. Do not store with food.
Be Equipped with tools to prevent from leakage

Part 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Maximum Allowable Concentration: 300mg/m^3

Monitoring Methods: Gas Chromatograph

Engineering control: Be ventilated in working process. Seal container in time.

Respiratory System Protection Requirements: Filtering respirators should be wore in working. Air or oxygen breathing apparatus are wore in Emergency or evacuation.

Eye Protection Requirements: Chemical tight goggles full-face shield

Body Protection Requirements: Wear Impervious work clothes

Hand Protection Requirements: Oil-resistance rubber glove or disposable PVC glove.

Other Protection Requirements: Forbid smoking, eating, and drinking in workplace. Shower and rewear in time after working. Have periodic physical examination。

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Part 9 PHYSICAL AND CHEMCAL PROPETIES

Appearance and properties: Straw yellow translucent liquid with irritative smell 。

Ph Value：6.5~7.0

Melting Point（℃）：-94℃ Relative Density：（Water=1）：0.9656

Boiling Point（℃）：126.5℃ Vapor Density：3.34

Saturated Vapor Pressure（kPa）：No Information combustion heat：3750

Critical Temperature（℃）：306℃ Critical Pressure：3.86

Logarithmic Value of Distribution Coefficients in Octanol /Water：1.78

Flash point：18.7 Upper explosive limit %（V/V）：8.0

Igniting Temperature (℃)：478.9℃ Lower explosive limit %（V/V）：1.08

Solubility：Be insoluble in water; dissolve easily in ester, ketone solvent; and dissolve partly in aromatic hydrocarbons.

Application：Applied in furniture coating and interior fitment companied with paint

Part 10 STABILITY AND REACTIVITY

Stability：Stable

Forbidden to Mixture With ： Spirit of acids, strong alkali

Avoiding to Contact：Flame, high temperature

Hazardous Polymerization：Will not Occur

Decomposition Products：CO, CO_2

Part 11 TOXICOLOGICAL INFORMATION

Acute Toxicity：The acute LD_{50} by inhaled to rats is 4650mg/kg; the acute LD_{50} by intraperitoneal injection to rats is 1950mg/kg。

Subchronic and subacute toxicity:：Long-term contacting may result in chronic poisoning, poor appetite，anemia. High concentration vapor can damage mucosal and irritate respiratory tract.

Irritability：Rabbit by eye 2mg/24h, moderate irritant，Rabbit by skin 500mg/24h, moderate irritan

Carcinogenicity：Without carcinogenic effect

Part 12 ECOLOGICAL INFORMATION

Ecological Toxicity：LC_{100}14.6mmol/L24h（Tetrahymena pyriformis）.LC_{50}6.7~17.2mg/L96h (Striped bass) LD_{50}74mg/L（Goldfish）,TLm32.5mg/L24h,96h soft water（Blue Gill Sunfish）.

Biodegradability：degraded by 11%,17%,19% in 1, 5, and10 weeks（in BROWN EARTH）from a beginning concentration of 20mg/L

Non-Biodegradability：The half life is26d (calculated) or 28d (tested) by Photodegradation

Bioconcentration or bioaccumulation：BFC: Japanese eel (Anguilla japonica) 4.5，Atlantic herring 6.2

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Part 13：DISPOSAL CONSIDERATIONS

Waste properties： Hazard waste

Waste Disposal Method： Burning disposal

Disposal attention： Store in sealed container

Part 14 TRANSPORT INFORMATION

Dangerous freight Number： 32198

UN Number：1293.1139.1263

Package Label：Flammable Liquid

Package Group： 5

Package Form： Ventage Can or 20Ldrum

Transport attention: Avoid being insolated and drenched. Hazardous article supercargo should appear in transportation

Part 15 REGULATORY INFORMATION

Statute Information： Be classified into the 3.2 sort flammable liquid by 《The classifications and Labels of conventional Hazard Chemicals》（GB13690-92）.The regulations on usage, transportation, storing, loading and unloading are in accordance with The Safety Management Regulation on Dangerous Chemical Goods (Released by the state council on 2nd Feb, 1987)

Part 16 OTHER INFORMATION

Reference：1.Guotai Zhou，The Safety Technical Book on Dangerous Chemical Goods, Chemical Industry Press,1997

2. Toxic chemicals management Office of State Environmental Protection Administration of China, Beijing Institute of Chemical Industry, Handbook of Environmental Data of Chemical Toxicity Statute，Chinese Environmental Science Press,1992

3. Handbook of Solvents, Nenglin Chen, the 3rd Edition

4.《The Safety Management Regulation on Dangerous Chemical Goods》Dexue Wang Chemical Industry Press

Date：2013.1.1

Branch： Department of Technology

Auditing Data Unit： Quality Assurance Department

Revision Notes: This sheet should be revised once the formula is changed or the raw materials are replaced.