Material Safety Data Sheet

Section One Chemical Product and Company Identification

English Name: Grey High Solids Content Type Environment H04-19(A)
Company Name: Zhejiang Tiannu Group Paint Manufacture Inc.
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Company Emergency Call: 0573-88361653
MSDS No.: Q/TNP G3-06.H007-2009
Effective Date: Sept. 1st.2009
Fire Fighting Emergency Call: 119

Section Two Information On Ingredients

Mixture √
Product Name: Grey High Solids Content Type Environment H04-19(A)

Hazardous Ingredients	Concentration	CAS №
Epoxy resins	38.00	24969-06-0
Carbon black	1.00	14807-96-6
Talcum powders	10.00	14807-96-6
Titanium dioxide	7.00	13463-67-7
Barium sulfate	10.00	13462-86-7
Butanol	8.00	71-36-3
Xylene	18.00	1330-20-7
Modified amines	7.00	
Accelerator	1.00	

Section Three Hazards Identification

Classification of Danger: 3.3 high flash liquid.
Routes of Entry: Inhalation, ingestion or absorption through skin.
Health Hazards: It is harmful to human health when contact, process, and use this product. Steam of this product has irritation effect to eyes and mucous membrane. Inhalation will cause dizziness, headache, agitation etc. High concentrative inhalation will cause acute poisoning symptoms.
Environment Hazards: The substance is hazardous to the environment, Pollution to aquatic system should be especially cautioned.
Combustion Hazards: Explosive mixture will be formed when steam of the product meets air. Combustion can be caused with open fire and high temperature.

Section Four First Aid Procedures

Skin Contact: Remove the contaminated clothes immediately, wash affected skin thoroughly with soap and water.

Eye Contact: Raise the eyelid, flush with plenty of water.

Inhalation: Leave the site and get some fresh air;Perform oxygen therapy in case of difficult breathing. Perform artificial respiration and seek medical attention if breathing stops. 。

Ingestion: Rinse the mouth, drink water and perform gastric lavage. Seek medical attention.

Section Five Fire Fighting Measurements

Danger Characteristics: This product is inflammable. Explosive mixture will be formed when steam of the product meets air; Combustion can be caused with open fire and high temperature; Hazardous gas will be released while burning. When the product flows too fast, static electricity is easy to be produced and accumulated.

Hazardous Burning Products:Smoke will be produced while burning, as well as carbon monoxide and carbon dioxide.

Fire-fighting Measures and Extinguishers: Foam, carbon dioxide, dry powder,1211 extinguisher and sandy soil can be used to put out the fire.

Section Six Accidental Release Measures

Emergency Measures:Small volume release: Cut off the fire source,ventilate immediately,sand can be used to absorb the spill,the used absorptive materials shall be sent to the landfill designated by environment protection agency. Brush the contaminated floor with soap water or detergent,dilute the waste water and dispose it into the sewage treatment system.Substantial release:cut off the fire source, the release source shall be cut off as soon as possible to prevent it from entering into limited space, like sewer. Evacuate persons in the contaminated area to a safe place and strictly restrict entry.The treatment person is recommended to wear self-contained breathing apparatus and fire-protection clothes. Stop the leakage if it's safe, ring fence the leakage and absorb the contamination, collect, remove, recycle or have non-hazardous treatment accordingly.

Section Seven Handling and Storage

Precautions for Safe Handling: Improve ventilation and exhaustion systems.The operators shall be trained specifically and shall strictly follow the operational procedure.The operators shall be equipped with anti-poison respirator, safety goggles, antistatic workwear, smash-proof and oil-proof shoes,chemical

protective gloves or skin protection film.Keep away from fire source, heat source,Smoking is prohibited in working place. Explosion-proof ventilation system and equipment shall be used.Fire-fighting tools and accidental release treatment equipments shall be equipped.

Storage precautions:The product shall be stored in a cool warehouse with good ventilation condition.Keep away from fire source and heat source.Temperature in the warehouse can not exceed 35℃. Keep the container sealed tightly.It can not be stored with oxidants and food chemicals, avoid mixing storage.Explosion-proof ventilation systems and exhausting equipments shall be adopted.The use of mechanical equipment and tools that generate sparks is prohibited.The storage place shall be equipped with absorbent materials using in accidental release treatment. The warehouse shall be equipped with static electricity grounding device.

Section Eight Exposure Controls and Personal Protection

Maximum Acceptable Concentration: Titanium dioxide 10mg/m^3;butanol 200 mg/m^3; xylene 100 mg/m^3; stive 10 mg/m^3.

Monitoring Method: Gas chromatography to monitor hazardous gases.

Engineering Control:Improve ventilation and exhaustion systems.

Respiratory System Protection: Anti-poison respirator,filter-type gas mask is required if it exceeds maximum acceptable concentration. Self-contained breathing apparatus is required during an emergency.

Eye Protection: Chemical safety goggles.

Body Protection: Antistatic workwear, smash-proof and oil proof shoes

Hand Protection:Chemical protective gloves etc.

Other Protections: Smoking, eating and drinking are prohibited in working place. Avoid drinking alcoholic beverage before working. Have bath and change clothes after work. Physical examination shall be performed before employment and periodically.

Section Nine Physical and Chemical Properties

Appearance and Characteristics: Grey viscous liquid with color and special smell.

Melting Point (℃) :No Melting Point

Relative Density(Water=1):1.5-1.6

Boiling Point:144.4

Relative Vapor Density:3.66

Flash Point (℃) :30

Upper Explosive Limit(%, V/V): 7.0

Ignition Temperature:495

Low Explosive Limit (%, V/V): 1.0

Solubility: Can mix with special thinner, xylene etc.

Application: Top coat for ring magnets.

(*The above mentioned data refers to the data of xylene)

Section Ten Stability and Reactivity

Stability: Stable
Materials to Avoid: Oxidants
Protect from: High temperature and fire.
Polymerization Hazards: Will not occur.
Hazardous Decomposition Products: Smoke will be produced while burning, as well as carbon monoxide and carbon dioxide.

Section Eleven Toxicological Information

*Acute Toxicity: Paralyzes and irritates central nerves. Rat LD: 26.3mg/m3,12h.
LD_{50} :
Rat, oral, LD_{50} (mg/kg): 3567 Mouse, oral, LD_{50} (mg/kg): 3567
Other animals, LD_{50} xylene, human, oral, TDL_0 :50mg/kg
LC_{50} :
Rat, oral, LC_{50}:6700ppm/4h
Other animals, LC_{50} xylene, human, oral, TCL_0 : 10000ppm/6h
Irritation:
Rabbit, skin: xylene, 500mg/24h, medium irritation.
Rabbit, eye: xylene, 87mg, mild irritation，5mg/24h, severe irritation.
Human, eye: xylene, 200ppm, irritation.
Subacute and chronical toxicity: Rat, rabbit, inhalation, 3000mg/m3，8h/d，6d/week,130d，white blood cells decreases,red blood cells and blood platelet numbers remain unchanged.
Teratogenicity: rat, pregnant 7-14d, TCL_0 3000 mg/m3/24H, musculoskeletal system deformities.
Carcinogenicity: IARC has classified it as group 3, the relevance to humans is unknown.
Others:Lowest toxic inhalation for rats (TCL_0): 1500mg/m^3, 24h (Pregnant 7-14d),has embryonic toxicity.
(*The above mentioned data refers to the data of xylene)

Section Twelve Ecological Information

1.Ecological Toxicity:
LC50：13mg/L（24h），16.9ppm/96h（goldfish）；42mg/L（96h）（fathead minnow，still water）；13mg/L（96h）（rainbow trout）；100~1000mg/L（24h）（water flea）
EC50：97mg/L（5min）（photo-bacteria，Microtox）
2.Biodegradability:
Aerobic degradation（h）：168~672
Anaerobic degradation（h）：4320~8640
3.Degradability:
The absorption spectra of photolysis（nm）：262~269.5

Photooxidation half-life period in water (h) : 3.90×105~2.70×108

Photooxidation half-life period in the air (h) : 4.4~44

4.Other hazards: water pollution and air pollution, small amount of residue and accumulation, biodegradable and chemical degradable in the environment,degradation velocity is much lower than evaporation speed, photodegradable in the air.

(*The above mentioned data refers to the data of xylene)

Section Thirteen Disposal Considerations

Waste Information: dangerous waste

Disposal Methods: dispose as dangerous waste

Notes: Storage and disposal of waste should refer to related national and local regulations.

Section Fourteen Transport Information

Code of Dangerous Goods : 33646

UN Number:

Package Labels: Inflammable Liquid

Package Type: III

Package Form: Inner package:steel drum,steel bucket;outer package:qty below 3.7L are packed with cartons(3.7L included).

Transportation precautions: Handle with care to avoid packages and containers being damaged.Transport in morning or evening during summer to protect from exposure to sun light. Transportation should follow the specified route.

Section Fifteen Regulatory Information

National Regulations:

Regulation on the Safety Management of Hazardous Chemicals,

Convention concerning Safety in the Use of Chemicals at Work ,

Regulations concerning Safety in the Use of Chemicals at Work,

GB 15603-1995 Rules for Storage of Chemical Dangers,

TJ 36-79 Sanitary Standard for the Design of Industrial Enterprise maximum allowable hazardous chemical concentration in workshop,

GB 6514-1995 Safety code for painting-Safety、ventilation and air clean-up for painting process,

GB 7691-87Safety Code for Painting Labor Safety and Labor Health Management,

GB 12463-1990 General specifications for transport packages of dangerous goods,

The People's Republic State Economic and Trade Commission (2000)No.189 ,

GB/T 11651-1989 Selection Rules of Articles for Labor Protections,

GB 18581-2001 Indoor decorating and refurbishing materials-Limit of harmful substances of solvent coatings for woodenware,

GB 50321-2001 Code for indoor environmental pollution control of civil building

engineering，

The standard specifies the limit of harmful substances contents in indoor coatings etc.

International Regulations：*Recommendations on Safety in the Use of Chemicals at Work*，

UN Recommendations on the Transport of Dangerous Goods

Section Sixteen Other Information

第十六部分 其他信息

Reference:1. *Quota Control of Painting Consumption* issued by previous chemical and industrial ministry.

2. *Dangerous Chemicals Specifications* issued by Chemical Industry Press，*New Dangerous Chemicals Manual, Health and Safety Manual of Toxic Chemicals*

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Preparation Department: Zhejiang Tiannu Group Paint Manufacture Inc. Safety Department.

Data reviewed by: Zhejiang Tiannu Group Paint Manufacture Inc. R&D Center.

Edit Description: This description is edited from *Safety Specification (2002) for Coatings* by Zhejiang Tiannu Group Paint Manufacture Inc.