Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name: BC-268
Chemical Name: Barium-Zinc Stabilizer
Synonym Name:
Barium-Zinc Stabilizer
CAS No.: N.A.
EINECS No.: N.A.
Chemical Formula: N.A.
Customs Tariff No: N.A.

Contact Information:
FU SHUN PLASTIC (SHEN ZHEN) CO, LTD
1ST BLK, LOU DUN ROAD, NO 1 INDUSTRIAL ZONE, LOU VILLAGE, GONGMING TOWN, BAO AN, SHEN ZHEN, CHINA
International Sales:
Tel: +86-755-27116406, 27116409
Fax: +86-755-27116330

Section 2 - Composition, Information on Ingredients

Composition:

Name	CAS No.	EINECS No.	% by weight
Barium-Zinc Stabilizer	N.A.	N.A.	100.0

Toxicological Data on Ingredients:
N.A.

Section 3 - Hazards Identification

Potential Acute Health Effects:

Inhalation: No data available.

Ingestion: No data available

Skin Contact: No data available

Eye Contact: Irritant, Animal tests indicate lowest rating for corneal injury.

Potential Chronic Health Effects:

Chronic toxicity: No data available

Local effects: No data available

Special effects: No data available
Carcinogenic Effects: No information found
Mutagenic Effects: No information found
Developmental Toxicity: No information found
Teratogenic Effects: No information found
Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4 - First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek a medical attention.
Skin Contact:
In case of contact, flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Seek a medical attention.
Serious Skin Contact: No information found
Ingestion:
Do not induce vomiting.Loosen tight clothing such as a collar, tie, belt or waistband.If the victim is not breathing, perform mouth-to-mouth resuscitation . Seek a medical attention.
Advice to doctor: Treat symptomatically. Not the nature of this product.
Serious Ingestion: No information found
Inhalation:
If mists, dusts or combustion products are inhaled, remove to fresh air. Lay victim down & keep warm

and rested. If breathing is shallow, or has stopped ensure clear airway and apply resuscitation or oxygen if available, seek a medical attention.
Serious Inhalation: No information found

Section 5 - Fire Fighting Measures

Flammability of the Product:liquid
Auto-Ignition Temperature: No information found
Flash Points: N.A.
Flammable Limits: No information found
Products of Combustion: No information found
Fire Hazards in Presence of Various Substances:
Flammable in presence of open flames and sparks, of heat, of oxidizing materials, of combustible materials.
Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: No information found
Risks of explosion of the product in presence of static discharge: No information found
Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam.
Special Remarks on Fire Hazards: No information found
Special Remarks on Explosion Hazards: No information found

Section 6 - Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled liquid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill:
Prevent spillage from entering drains or water courses. Wear full protective clothing including face mask, face shield and gauntlets. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling orsalvage. Recycle containers wherever possible. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. If material enters drains, advise emergency services. This material may be suitable for approved landfill. Dispose of only in compliance with loca regulations. Launder all contaminated clothing before re-use.

Section 7 - Handling and Storage

Storage:
Drums should be stored above 10℃ to avoid "winterizing" in cold weather.
Do not store at temperatures above 45℃. Under low temperature environment, storage tanks or vessels shall be equipped with heating instrument.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.
Control parameters
At PVC processing temperatures good ventilation is essential to remove all fumes generated by the PVC formulation.
Limit values: ND
Personal Protection:
Splash goggles. Lab coat. Dust respirator. Gloves.
Be sure to use an approved/certified respirator or equivalent.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves.
A self contained breathing apparatus should be used to avoid inhalation of the product.
Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

Exposure Limits: No information found

Section 9 - Physical and Chemical Properties

Physical state and appearance: Light yellow oily liquid
Molecular Weight: N.A.
Odor: Mild
Melting Point:-5℃
Boiling Point: 150℃ at 5mmHg
Flash Point: 280℃(open cup).
Specific Gravity:0.985-0.995 at 25℃
Refractive Index:1.472 at 25 ℃
Vapor Pressure: No information found.
Vapor Density (Air=1): No information found
Odor Threshold: No information found
Water/Oil Dist. Coeff.: No information found
Solubility: 0.01% (20℃)
Evaporation Rate (BuAc=1): Less than water.
Ionicity (in Water): No information found

Section 10 - Stability and Reactivity

Stability: The product is stable.
Instability Temperature: No information found.
Conditions of Instability: No information found.
Incompatibility with various substances: No information found.
Conditions to Avoid: Dust generation, moisture, excess heat.
Corrosivity: Non-corrosive in presence of glass.
Special Remarks on Reactivity: No information found.
Special Remarks on Corrosivity: No information found.
Polymerization: May polymerise spontaneously. If uncontrolled, this may lead to dangerous situations.

Section 11 - Toxicological Information

Routes of Entry: Eye contact .
Toxicity to Animals:
No information found.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant, permeator), of inhalation.
Special Remarks on Chronic Effects on Humans: No information found
Special Remarks on other Toxic Effects on Humans: No information found

Section 12 - Ecological Information

Ecotoxicity: Not available.
BOD_5 and COD: Not available.
Products of Biodegradation: No information found.
Toxicity of the Products of Biodegradation: No information found.
Special Remarks on the Products of Biodegradation: No information found.
Aquatic Toxicity: May cause long-term adverse effects in the aquatic environment.

Section 13 - Disposal Considerations

Waste Disposal:

Incineration

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

DOT Classification: N/A Keep away from children.

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15 - Regulatory Information

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not available. (Canada).

DSCL (EEC): Not available.

HMIS (U.S.A.):

Health Hazard:1

Fire Hazard:1

Reactivity: 1

Personal Protection: G

Specific hazard: Not available.

Section 16 - Additional Information

Other Special Considerations: No information found

Product Use:

It has good compatibility with PVC resin. It has low volatility and little mobility. And it won't react in heat or light. It's water-proof and oil-proof. Using it can make the products have good mechanical strength, resistance to elements and electrical property.

Revision Information:

MSDS Creation date: June 23, 2010

Revision date: June 23, 2010

EMERGENCY CONTACT: +86-755-27116406

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No.351, Minfeng Road, Pudong new District
201209 Shanghai, China
Tel: 86-21-68726669
Fax: 86-21-68729028

TDS-Jeco Blue JHB-402SD

1	Chemical characterization:	Phthalo Blue	
	Colour Index:	Pigment Blue 15:3	No. 74 160 β -型
2	Colour properties:		
2.1	Relative tinting strength:	95 - 105 %	
	Reduction:	dH = ± 0.5	CIE lab units
		dC = ± 0.8	CIE lab units
		dE = 0.0 – 1.0	CIE lab units
2.2	Full shade:		
	Hue:	dH = ± 0.5	CIE lab units
	Chroma:	dC = ± 0.8	CIE lab units
		dE = 0.0 – 1.0	CIE lab units
	Transparency:	close to standard, ± 2 visual assessment units	
3	pH-value:	6.0 – 9.0	
4	Specific conductivity:	≤ 0.5 mS/cm	
5	Volatile matter (105℃):	≤ 2.0 %	
6	Sieve residue (DIN 53195):	≤ 0.2%	

Enclosure
Notes to the Product Specification.

This Specification will not be signed. It has been automatically printed.

No.351, Minfeng Road, Pudong new District
201209 Shanghai, China
Tel: 86-21-68726669
Fax: 86-21-68729028

Notes to the Technical Delivery Specification

The subject of these specifications, in addition to the data given, are the test methods by means of which the data have been determined. The test methods can be received if desired. The following notes briefly describe the test and assessment conditions. In other test media and/or under test conditions, these values might differ. Please take information about characteristic fastness values for the product (lightfastness, heatstability, etc.) from the pattern cards.

Note on 2 - Colour properties

Testing of the coloristic properties is carried out in accordance with the test method "Testing of pigments in plastics", in comparison with the standard quality of the product. The test method can be received if desired.
The assessment of the colour properties is carried out visually.

Note on 3 - pH value

An aqueous pigment slurry containing 5 % pigment is filtered and in the filtrate pH value is measured at room temperature in accordance with test method of Jeco pH value measurement.

Note on 4 - Specific conductivity

An aqueous pigment slurry containing 5 % pigment is filtered and in the filtrate specific conductivity is measured in accordance with test method of Jeco's. It is an indication of watersoluble electrolytes contained in the pigment powder.

Note on 5 - Volatile matter

The percentage by mass of matter volatile from a pigment sample is determined at 105 °C by means of an IR lamp. The sample is being heated until it reaches constant weight (according to DIN ISO 787/2).

Note on 6 –Sieve residue

Determination of residue on sieve according to DIN 53195. The mesh width of the sieve amounts to
0.063 mm.

SAFETY DATA SHEET
According to EC-directive 93/112/EC

SHIN-ETSU PVC TK-1300

Version 2-1 Last change: 2006-2-1 Date of Issue: 2003-6-3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product label name	SHIN-ETSU PVC
Product type	Polymer
Supplier	SHIN-ETSU CHEMICAL , CO., LTD 6-1, Ohtemachi 2-cyome, Chiyoda-ku, Tokyo, Japan Tel: +81-3-3246-5301 Fax: +81-3-3246-0675
Emergency telephone	International Division Tel: +81-3-3246-5301

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical description	Polyvinyl chloride
Common name	PVC, Suspension PVC, Vinyl chloride polymer
Concentration	≧99.5 %w/w
CAS-number	9002-86-2
Other information	Contains residual Vinyl chloride monomer, RVCM (max. 10mg/kg)

3. HAZARDS INDENTIFICATION

Human health hazards	Heating over 210℃ may liberate hazardous vapours. Molten product adheres to the skin and causes burns.
Safety hazards	Risk of dust explosion by contact with a source of ingnition. Electrostatic charges may be generated during handling. Not classified as flammable but will burn.
Other hazards	Not classified as hazardous according to the EEC Dangerous substance Directive and Dangerous Preparation Directive.

4. FIRST AID MEASURES

Symptoms and effects	Dust may be irritating to the respiratory tract and cause symptoms of Bronchitis. Vapours may cause irritation to nose and throat and upper respiratory tract (This is only possible exposure to HOT product).
First aid	
General	In all cases of doubt, or when symptoms persist, seek medical attention.
Inhalation	Remove to fresh air, rest, half upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing . Obtain medical attention.
Skin	Molten Material on the skin should be cooled with cold water.
Eye	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth, give water to drink. Always seek medical attention immediately.
Advice to physician	Symptomatic treatment is advised.

5. FIRE-FIGHTING MEASURES

Extinguishing media	Large fires: foam, waterspray or water mist. Extinguish a small with Dry powder, carbon dioxide, sand or earth.
Unsuitable extinguishing media	Never use water with full waterjet.
Special exposure hazards	Dust explosion risk by contact with a source of ignition
Hazardous decomposition/ combustion products	Emits toxic and corrosive fumes under fire conditions (Carbon monoxide and Hydrogen chloride).
Protective equipment	Wear self contained breathing apparatus and full protective clothing.
Other information	Cool closed containers with water. Consider the possible corrosion hazards due to HCI emission. After a fire, ventilate the area thoroughly and soak with water, clean the walls and metallic surfaces.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not breath dust. Ventilate the area. No smoking. For personal Protection see. Section 8.
Enviromental precautions	Prevent from entering into drains, rivers, ditches or water courses.
Methods for cleaning up	Shovel up. Collect as much as possible in a clean labelled, sealable container for (preferable) reuse or safe disposal. See Section 13 for information on disposal.

7. HANDLING AND STRAGE

Handling	Use only in well-ventilated areas. Avoid breathing dust. Avoid contact with hot product. Avoid dust generation.
Fire and explosion prevention	Take precautionary measures against static discharges. Apply earthing when transferring from one container to another. Keep away from sources of ignition- No smoking. Avoid contact with heated or moltou product.
Storage requirements	Store in a dry, cool and well-ventilated place.
Other information	Maximum prolonged storage temperature 50℃. Take precautionary measures against static discharge. Store in carbon steel and / or stainless steel, aluminium and / or Polyethylene-lined containers. Comply with local regulations for dust emission.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Provide adequate ventilation

Exposure limit

Name		
Polyvinyl chloride	OES-TWA	10mg/m^3 total inhalable PNOC.
	TLV-TWA	10mg/m^3 inhalable PNOC.
	TLV-TWA	3mg/ m^3 respirable PNOC.
Vinyl chloride monomer	TLV/EU	3ppm, Classified as a category 1 carcinogen
	TLV/ACGIH-TWA	5ppm, A1: established human carcinogen

Personal protection	
Respiratory	In case of dust formation use dust mask (NPF 7-10) Respirator with Filter A/p2 , NPF 20 (GAS)
Hand	PVC, Nitrile rubber or neoprene gloves.
Eye	Safety goggles.
Skin and body	Protective clothing. Safety shoes or boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	solid powder
Colour	white
Odour	odourless
Boiling point/range	Decomposes (decomposition temperature >100℃)
Melting point/range	not relevant. Softening point approximately 80℃
Flash point	not applicable
Flammability	not determined (class of combustion: BZ1, no ignition)
Autoignition temperature	>390℃
Explosive properties	Explosion hazard exists though the level is very low Spark energy E50>1200 mJ
Explosion limits	not determined
Oxidizing properties	not determined
Vapour pressure	not determined
Specific gravity	1,380kg/ m^3 at 23℃
Bulk density	450-550kg/m^3
Solubility in water	Insoluble
Solubility in other solvents	Soluble in Tetrahydrofuran, Cyclohexanone
PH value	not applicable
Partition coefficient n-octanol/water	not applicable
Relative vapour density (air=1)	not applicable
Viscosity	not applicable

10. STABILITY AND REACTIVITY

Stability	Stable up to 100℃. The thermal stability depends on temperature and time of exposure. The thermal degradation is quite fast (>230℃).
Conditions to avoid	Heat, sources of heat, naked flames, sparks. Avoid temperature above 100℃.
Materials to avoid	none known.
Hazardous decomposition products	hydrochloric acid (HCl), carbon monoxide (CO) (at elevated temperatures).

11. TOXICOLOGICAL INFORMATION

No experimental toxicological data of the product as such available. From structurally related products the following may be expected:

Acutetoxicity	
Oral LD50	rat: >2000mg/kg
Dermal LD50	rat: >2000mg/kg
Irritation	
Skin	Non-irritating
Eye	Non-irritating
Sensitization	Not-sensitizing
Other toxicological information	Vapour or mist is irritating to respiratory tract and eyes. This is only possible by exposure to HOT product

12. ECOLOGICAL INFORMATION

No experimental ecotoxicological data are available for this product. The information given below is based on a knowledge of the similar products.

Ecotoxicity:	
Fish	Acute toxicity, 96h-LC50=>100mg/l
Fate	
Degradation Biotic	Not readily biodegradable
Bioaccumulation	Not expected to bioaccumulate

13. DISPOSAL CONSIDERATION

Product	Collect for recycling. Waste disposal in accordance with regulations (most probably controlled incineration).
Contaminated packaging	Collect for recycling. Waste disposal in accordance with regulations.
Other information	For further advice contact manufacturer.

14. TRANSPORT INFORMATION

Land transport (ADR/RID)

ADR class	not restricted	ADR item number	not relevant
RID class	not restricted	RID item number	not relevant
Hazard Identification No.	not relevant	Substance Identification No.	not relevant
		UN number	none

Sea transport (IMDG-code/IMO)

IMO/IMDG code		Class	not restricted
Packing group	not relevant	UN number	none
EMS	not relevant	MFAG	not relevant
Marine pollutant	no		
Proper shipping name	not relevant		

Air transport (ICAO-TI/ IATA-DGR)

ICAO-TI/IATA-DGR		UN number	none
Class	not restricted	Packing group	not relevant

15. REGULATORY INFORMATION

Labelling according to EC directives

EC-classifications	Not classified as dangerous under EC criteria
Symbol (s)	none
R (isk) phrase (s)	none
S (afety) phrase (s)	none

16. OTHER INFORMATION

This information only concerns the above mentioned product and does not need to be valid if used with other product (s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name: BC-268
Chemical Name: Barium-Zinc Stabilizer
Synonym Name:
Barium-Zinc Stabilizer
CAS No.: N.A.
EINECS No.: N.A.
Chemical Formula: N.A.
Customs Tariff No: N.A.

Contact Information:
FU SHUN PLASTIC (SHEN ZHEN) CO, LTD
1ST BLK, LOU DUN ROAD, NO 1 INDUSTRIAL ZONE, LOU VILLAGE, GONGMING TOWN, BAO AN, SHEN ZHEN, CHINA
International Sales:
Tel: +86-755-27116406, 27116409
Fax: +86-755-27116330

Section 2 - Composition, Information on Ingredients

Composition:

Name	CAS No.	EINECS No.	% by weight
Barium-Zinc Stabilizer	N.A.	N.A.	100.0

Toxicological Data on Ingredients:
N.A.

Section 3 - Hazards Identification

Potential Acute Health Effects:

Inhalation: No data available.

Ingestion: No data available

Skin Contact: No data available

Eye Contact: Irritant, Animal tests indicate lowest rating for corneal injury.

Potential Chronic Health Effects:

Chronic toxicity: No data available

Local effects: No data available

Special effects: No data available
Carcinogenic Effects: No information found
Mutagenic Effects: No information found
Developmental Toxicity: No information found
Teratogenic Effects: No information found
Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4 - First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek a medical attention.
Skin Contact:
In case of contact, flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Seek a medical attention.
Serious Skin Contact: No information found
Ingestion:
Do not induce vomiting.Loosen tight clothing such as a collar, tie, belt or waistband.If the victim is not breathing, perform mouth-to-mouth resuscitation . Seek a medical attention.
Advice to doctor: Treat symptomatically. Not the nature of this product.
Serious Ingestion: No information found
Inhalation:
If mists, dusts or combustion products are inhaled, remove to fresh air. Lay victim down & keep warm

and rested. If breathing is shallow, or has stopped ensure clear airway and apply resuscitation or oxygen if available, seek a medical attention.
Serious Inhalation: No information found

Section 5 - Fire Fighting Measures

Flammability of the Product:liquid
Auto-Ignition Temperature: No information found
Flash Points: N.A.
Flammable Limits: No information found
Products of Combustion: No information found
Fire Hazards in Presence of Various Substances:
Flammable in presence of open flames and sparks, of heat, of oxidizing materials, of combustible materials.
Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: No information found
Risks of explosion of the product in presence of static discharge: No information found
Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam.
Special Remarks on Fire Hazards: No information found
Special Remarks on Explosion Hazards: No information found

Section 6 - Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled liquid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill:
Prevent spillage from entering drains or water courses. Wear full protective clothing including face mask, face shield and gauntlets. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling orsalvage. Recycle containers wherever possible. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. If material enters drains, advise emergency services. This material may be suitable for approved landfill. Dispose of only in compliance with loca regulations. Launder all contaminated clothing before re-use.

Section 7 - Handling and Storage

Storage:
Drums should be stored above 10℃ to avoid "winterizing" in cold weather.
Do not store at temperatures above 45℃. Under low temperature environment, storage tanks or vessels shall be equipped with heating instrument.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.
Control parameters
At PVC processing temperatures good ventilation is essential to remove all fumes generated by the PVC formulation.
Limit values: ND
Personal Protection:
Splash goggles. Lab coat. Dust respirator. Gloves.
Be sure to use an approved/certified respirator or equivalent.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves.
A self contained breathing apparatus should be used to avoid inhalation of the product.
Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

Exposure Limits: No information found

Section 9 - Physical and Chemical Properties

Physical state and appearance: Light yellow oily liquid
Molecular Weight: N.A.
Odor: Mild
Melting Point:-5℃
Boiling Point: 150℃ at 5mmHg
Flash Point: 280℃(open cup).
Specific Gravity:0.985-0.995 at 25℃
Refractive Index:1.472 at 25 ℃
Vapor Pressure: No information found.
Vapor Density (Air=1): No information found
Odor Threshold: No information found
Water/Oil Dist. Coeff.: No information found
Solubility: 0.01% (20℃)
Evaporation Rate (BuAc=1): Less than water.
Ionicity (in Water): No information found

Section 10 - Stability and Reactivity

Stability: The product is stable.
Instability Temperature: No information found.
Conditions of Instability: No information found.
Incompatibility with various substances: No information found.
Conditions to Avoid: Dust generation, moisture, excess heat.
Corrosivity: Non-corrosive in presence of glass.
Special Remarks on Reactivity: No information found.
Special Remarks on Corrosivity: No information found.
Polymerization: May polymerise spontaneously. If uncontrolled, this may lead to dangerous situations.

Section 11 - Toxicological Information

Routes of Entry: Eye contact .
Toxicity to Animals:
No information found.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant, permeator), of inhalation.
Special Remarks on Chronic Effects on Humans: No information found
Special Remarks on other Toxic Effects on Humans: No information found

Section 12 - Ecological Information

Ecotoxicity: Not available.
BOD_5 and COD: Not available.
Products of Biodegradation: No information found.
Toxicity of the Products of Biodegradation: No information found.
Special Remarks on the Products of Biodegradation: No information found.
Aquatic Toxicity: May cause long-term adverse effects in the aquatic environment.

Section 13 - Disposal Considerations

Waste Disposal:

Incineration

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

DOT Classification: N/A Keep away from children.

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15 - Regulatory Information

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not available. (Canada).

DSCL (EEC): Not available.

HMIS (U.S.A.):

Health Hazard:1

Fire Hazard:1

Reactivity: 1

Personal Protection: G

Specific hazard: Not available.

Section 16 - Additional Information

Other Special Considerations: No information found

Product Use:

It has good compatibility with PVC resin. It has low volatility and little mobility. And it won't react in heat or light. It's water-proof and oil-proof. Using it can make the products have good mechanical strength, resistance to elements and electrical property.

Revision Information:

MSDS Creation date: June 23, 2010

Revision date: June 23, 2010

EMERGENCY CONTACT: +86-755-27116406

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CRISTAL 134

Material Safety Data

Product Identification

Trade Name	CRISTAL 134
Manufactured by	The National Titanium Dioxide Co. Ltd PO Box 13586 Jeddah 21414 Kingdom of Saudi Arabia
Telephone	+966 (0)2 651 9883
Facsimile	+966 (0)2 651 8757
Email	info@cristalarabia.com

Composition/Information on Ingredients The preparation consists of the following

Material	CAS Number	Typical Range (%)
Titanium dioxide	13463-67-7	96.0 – 98.0
Aluminium hydroxide	21645-51-2	1.0 – 3.0

A fractional percentage of organic additive is also present. None of the above substances are reported as potential carcinogens by OSHA.

Hazards Information Adverse human health effects

Preliminaries	Inert nuisance dust. Can cause lung irritation.
Primary route of entry	Inhalation of airborne dust.
Symptoms of exposure	Coughing, sneezing or irritation of the mucous membrane.
Restrictive conditions	Breathing or respiratory tract disorder/disease would be aggravated by exposure to airborne dust.
Eyes	Inert foreign body hazard.

First Aid Measures

Inhalation	Remove to fresh air.
Eyes	Flush with large amounts of water. If irritation persists, seek medical attention.
Skin	Wash with water and mild soap.
Ingestion	No adverse health effects during the course of normal industrial handling. If large quantities ingested, seek medical attention.

Fire Fighting Methods

Extinguishing media	No fire hazard.

Precautions should be taken against static discharge of electricity during powder handling operations.

Accidental Release Measures

Use any mechanical means to remove powder. Avoid dusting. Prevent entry to natural waterways.

Handling and Storage

Handling	Use suitable ventilation to prevent excessive inhalation and skin contact. Avoid static discharge during powder handling operations.
Storage	Store in dry area. Wet material may become very slippery.

Exposure Controls/Personal Protection

Exposure control	Generally handle in areas of good ventilation. If airborne dust is over or thought to approach the occupational exposure standard, local exhaust may be necessary.
Respiratory protection	Use approved dust respirator if OES is likely to be exceeded.
Hand protection	Use gloves for prolonged/repeated contact.
Eye protection	Use safety glasses/goggles.
Skin protection	Wear normal protective overalls. Sensitive skin can be protected further by use of a barrier cream or moisturiser.

Physical and Chemical Properties

Appearance	Fine white powder
Odour	Odourless
pH	7.5 (Typical) 10% slurry
Melting point °C	1,840
Boiling point °C	2,500 – 3,000
Decomposition °C	N/A
Flash point °C	N/A
Autoignition °C	N/A
Explosion properties	N/A
Relative density	4.1 (water = 1)
Solubility (water)	Insoluble
Other data	–
Bulk density kg/l	0.64 – 0.88

Stability and Reactivity This product is chemically stable, and non-reactive

Conditions to avoid	None
Materials to avoid	None
Hazardous decomposition	None

Toxicological Information This product is non-toxic and physiologically harmless

Occupational exposure limits:	
Titanium dioxide (OES)	10 mg/m^3 total inhalable (8 hour TWA) 5 mg/m^3 respirable dust (8 hour TWA)

Ecological Information

No known harmful effects on Goldorfen (Leuciscus Idus) with 1 g/litre concentration (Maximum testing). Water flea (Daphnia Magna) with 1 g/litre concentration (No aquatic Toxicity). Available evidence suggests that titanium dioxide does not cause any significant adverse environmental effects.

Disposal

This product does not constitute any known hazard for disposal into sanitary landfill or industrial waste disposal landfill. Attention should however be paid to local and national waste regulations.

Transport Information

This material is not classified as a dangerous good by international transport regulations.

Regulatory Information

No Hazard Labelling is required for this Product. This product is given an OES under the Control of Substances Hazardous to Health regulations, as per the Health and Safety Executive in the United Kingdom.

Other Information

None.

The above is provided for guidance only.

For further information contact Cristal Technical Sales and Services
TEL: +966 (0)2 651 9883 / 653 0104 FAX: +966 (0)2 651 8757 / 653 3382 EMAIL: info@cristalarabia.com

THE NATIONAL TITANIUM DIOXIDE CO. LTD
Headquarters: PO Box 13586, Jeddah 21414, Kingdom of Saudi Arabia

Limited Liability Co. Fully Paid Capital SR 175,000,000 CR 4030062296

www.cristalarabia.com

CMS4MT0015 Rev.1 JANUARY 2003

Material safety data sheet

Guangyuan chemical industry(Jiangxi) limited liability company

Add:Chengnan industry zone, Yongfeng County, Jiangxi Province

Tel: 0086-796-2222988

1. Product data

Product range superfine Heavy tar calcium carbonate

Product code number HX-800 HX-1250 HX-1500 HX-2500 HX-2800

Chemistry name $CaCo_3$

2.Product ingredient

Ingredient name	content
Calcium carbonate ($CaCo_3$) %	98.8
Ferric oxide (Fe_2o_3) %	0.02
Silicon dioxide (Sio_2) %	0.01
Magnesia (MgO) %	0.1
Trioxide two aluminum (AL_2O_3) %	0.01

3.Physico-chemical properties

Outward appearance	powder
Color	white
Smell	tasteless
Potential of hydrogen	7-9
The water-solubility	Insoluble in water
Proportion	2.7tons/M^3
Activation degrees%	97.5

4.First aid measure

Supposition

When your eye touched the product, uses the massive clear water flushing at least 10 minutes immediately, and make sure that you can flush the face thoroughly.

When your skin touched the product, clean it with soap and water immediately.

When swallows excessively, may cause to vomit,See a doctor immediately.

5.Fire precautions

The flash point	not suitable
The resolvent	not include

Periphery fire fighting material Choice fire fighting tool basis situation

6.Product processing and storage

Product processing

Puts on the mouthpiece when you working, And washes your hands instantly after you processing the product, avoids the product into your eyes.

The storage

1. storage the products in cool, dry and good well ventilated region,

2. Make sure that it is far away the incompatible or the dangerous material,

3. avoids the packing damaging,Shelf-life of three years.

7.Individual protective device

Eye protection	goggles or face guard
Skin protection	work clothes, glove

8. Ecology information

Not this product correlation data. Does not have to enter the sewer or the rivers.

9. Transport mode

The railroad (train), the road (automobile) transports

10. Packing

Three compound bags, 25kg/ bag

11. Rank

Product rank:Superior product 、Top-quality product、Quality products

12.Stability and reactivity

Chemical property is stability at normal temperatures. But can't leave in acid's care.

13.Toxicology

No acrimony or toxicity.

14.Abandon disposition

Burning,chemical oxidation,solvent or landfill.

15.Regulatory information

Follow the chemical dangerous conents of the regulations on administration.

16. Additional informations

In this material security data sheet material is according to us at present the level of understanding and the current national law orders. Has not obtained the written notification, the product does not have to use in outside the product data sheet stipulation in advance other goals. Takes the essential measure to conform to the laws and regulations requirement by it is user's responsibility throughout.

SAFETY DATA SHEET

DISFLAMOLL DPK

LANXESS Energizing Chemistry

00002461

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation

Product name : DISFLAMOLL DPK

Use of the substance/preparation : plastics additive, Flame-retarding agent.

Supplier/Manufacturer : LANXESS Deutschland GmbH, Industrial & Environmental Affairs
51369 Leverkusen, Germany, Telephone: +49 214 30 65109
E-mail: infosds@lanxess.com

Emergency telephone number : +49 214 30 99300 (Sicherheitszentrale CHEMPARK Leverkusen)

2. HAZARDS IDENTIFICATION

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product definition (REACH) : Multi-constituent substance

Reaction mass of: phenol and p/m-cresyl phosphates. main component: diphenyl cresyl phosphate.

Ingredient name	CAS number	%	EC number	Classification	REACH number
diphenyl cresyl phosphate	26444-49-5	42 - 47	247-693-8	N; R50/53	-
triphenylphosphate	115-86-6	20 - 24	204-112-2	N; R50/53	-
phosphoric acid, bis(methylphenyl) phenyl ester	26446-73-1	20 - 24	247-708-8	N; R51/53	-
tricresyl phosphates (m-m-m, m-m-p, m-p-p, p-p-p)	1330-78-5	4 - 6	215-548-8	Xn; R21/22 N; R51/53	-

Occupational exposure limits, if available, are listed in section 8.

4. FIRST AID MEASURES

First-aid measures

Inhalation : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion : Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

See section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Not suitable : None known.

Special exposure hazards : In a fire or if heated, a pressure increase will occur and the container may burst.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
phosphorus oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May be harmful to the environment if released in large quantities.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. HANDLING AND STORAGE

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values : Not available.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Risk management measures

Occupational exposure controls

Technical measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection measures

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations <1 hours (breakthrough time): PVC gloves.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: Tightly-fitting goggles

Skin protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear protective clothing.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls

Technical measures : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance

Physical state	:	Liquid.
Colour	:	Colourless.
Odour	:	Characteristic.

Important health, safety and environmental information

Boiling point	:	>224°C (5 mbar)
Melting point	:	-45 to -35°C (-49 to -31°F)
Vapour pressure	:	<0.01 hPa (20°C)
Density	:	1.205 to 1.215 kg/L (20 °C)
Solubility	:	0.0026 g/l (water)
Octanol/water partition coefficient	:	4.5 (measured)
Viscosity	:	Dynamic: 45 to 50 mPa·s
Ignition temperature:	:	>500°C

10. STABILITY AND REACTIVITY

Stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Decomposition temperature	:	540°C
Conditions to avoid	:	Avoid release to the environment.
Materials to avoid	:	No specific data.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product/ingredient name	Result		Species	Dose	Exposure	Test
DISFLAMOLL DPK	LD50 Dermal	-	Rat - Male, Female	>2000 mg/kg	-	402 Acute Dermal Toxicity
	LD50 Oral	-	Rat	>5000 mg/kg	-	-

Irritation/Corrosion

Skin	:	Non-irritating
Eyes	:	Non-irritating

Sensitiser

Product/ingredient name	Route of exposure	Species	Result	Test description
DISFLAMOLL DPK	skin	Rabbit	Not sensitizing	-

Product/ingredient name	Result	Species	Dose	Exposure	Test

Potential chronic health effects

Mutagenicity

Product/ingredient name	Test	Experiment	Result
triphenylphosphate	Mouse lymphoma assay	In vitro; Mammalian-Animal	Negative
	Ames test	In vitro; Bacteria	Negative
tricresyl phosphates (m-m-m, m-m-p, m-p-p, p-p-p)	Micronucleus test:	In vitro; Mammalian-Animal	Negative
	Ames test	In vitro; Bacteria	Negative
DISFLAMOLL DPK	OECD 474 Mammalian Erythrocyte Micronucleus Test	In vivo; Mammalian-Animal; Somatic	Negative
	471 Bacterial Reverse Mutation Test	In vitro; Bacteria; S9-Mix	Negative

Conclusion/Summary

Remarks : Ames-test: negative

12. ECOLOGICAL INFORMATION

Ecotoxicity data

Product/ingredient name	Test	Result	Species	Exposure
DISFLAMOLL DPK	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 >10000 mg/l -	Bacteria	3 hours
	-	Acute EC50 10 mg/l -	Fish - Danio rerio	96 hours
	OECD 201 Alga, Growth Inhibition Test	Chronic IC50 0.99 mg/l -	Algae - Selenastrum capricornutum	72 hours

Other ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
DISFLAMOLL DPK	-	-	Readily
triphenylphosphate	Fresh Water 19 days	50%; 0.5 day(s).	Readily
tricresyl phosphates (m-m-m, m-m-p, m-p-p, p-p-p)	-	50%; 0.027 day(s).	Readily

Product/ingredient name	Rate of degradation/ elimination (%)	Period (days)	Test
triphenylphosphate	83 to 94 %	28 days	OECD 301C Ready Biodegradability - Modified MITI Test (I)
tricresyl phosphates (m-m-m, m-m-p, m-p-p, p-p-p)	82 %	28 days	301B Ready Biodegradability - CO2 Evolution Test
	80 %	28 days	301C Ready Biodegradability - Modified MITI Test (I)
DISFLAMOLL DPK	84 %	28 days	OECD 301B Ready Biodegradability - CO2 Evolution

Product/ingredient name	Rate of degradation/ elimination (%)	Period (days)	Test
			Test
	75 %	28 days	OECD 301C Ready Biodegradability - Modified MITI Test (I)

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
DISFLAMOLL DPK	4.5	>100	high
triphenylphosphate	4.6	110 to 144	high
tricresyl phosphates (m-m-m, m-m-p, m-p-p, p-p-p)	6.1	385 to 2768	high

Environmental effects : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Readily biodegradable Water polluting material. May be harmful to the environment if released in large quantities. This product shows a high bioaccumulation potential.

AOX : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

Remarks : The product does not contain heavy metals in concentrations of concern for waste water.

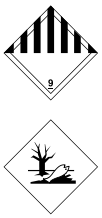
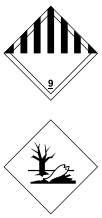
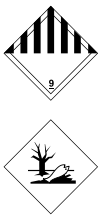
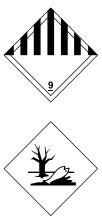
13. DISPOSAL CONSIDERATIONS

Methods of disposal : Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled according to relevant national and local regulations. Where large quantities are concerned, consult the supplier. When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL).

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

14. TRANSPORT INFORMATION

Regulation	UN number	Proper shipping name	Class	PG	Label	Additional information

Regulation	UN number	Proper shipping name	Class	PG	Label	Additional information
ADR/RID	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CRESYL DIPHENYL PHOSPHATE)	9	III		**Hazard identification number** 90 **Limited quantity** LQ7
GGVSE	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CRESYL DIPHENYL PHOSPHATE)	9	III		**Hazard identification number** 90 **Limited quantity** LQ7
ADNR	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CRESYL DIPHENYL PHOSPHATE)	9	III		**Hazard identification number** 90 **Limited quantity** LQ7
IMDG	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CRESYL DIPHENYL PHOSPHATE)	9	III		**Emergency schedules (EmS)** F-A, S-F **Marine pollutant** Severe marine pollutant (PP)
IATA	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CRESYL DIPHENYL PHOSPHATE)	9	III		**Passenger aircraft** 914: 450 L **Cargo aircraft** 914: 450 L

PG: Packing group

Marine pollutants.
Environmentally hazardous substance (GGVSE, RID/ADR).
Keep separated from foodstuffs.

15. REGULATORY INFORMATION

EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Industrial applications.

Hazard symbol or symbols :

Dangerous for the environment

Risk phrases : R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

16. OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3 - Europe : R21/22- Harmful in contact with skin and if swallowed.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

History

Date of printing : **2009-08-27**

Date of issue : **2009-08-27**

Date of previous issue : **2009-02-06**

Version : **1.09**

Indicates information that has changed from previously issued version.

Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.

HAIRMA CHEMICALS (GZ) LTD

No.1, Xin Chang, Yagang Industrial Park, Shijing St., Baiyun district, Guangzhou, P.R.C.
86-20-81095495 86-20-81095503

EPOXIDIZED SOYBEAN OIL MATERIAL SAFETY DATA SHEET

MSDS Number: 175001
Effective Date: 2004.10.28

1. Product and Company Identification

Product name	Epoxidized Soybean Oil
Synonyms	Not available
Chemical Formula	
Product Code	HM-01A
Company Information	Guangzhou Baiyun HexingHecheng Material Factory Address: YaGang Industrial Park, ShiJing Town, BaiYun borough, GuangZhou, P.R.China - 510430 Tel: 86-20-81095495 Fax: 86-20-81095503

2. Composition/Ingredients Information

Items	Assay	CAS Number
Epoxidized Soybean Oil	99.9% Min	8013-07-8
Moisture	0.1% Max	

3. Hazards Identification

Toxicity	No toxicity
Environmental Effects	Not available
Potential Health Effect	**Skin Contact:** Repeated or prolonged skin contact may cause skin irritation. **Eye Contact:** May cause slight eye irritation of susceptible persons. **Ingestion:** unknown. **Inhalation:** May cause dizziness

4. First-Aid Measures

Inhalation	Not Likely to Occur
Ingestion	Rinse mouth, induce vomiting and be to hospital
Eye Contact	Rinse with water
Skin Contact	Wash with soap and water

5. Fire and Explosion Hazard Data

Unusual Fire and Explosion Hazards	None
Flash point	> 280℃
Extinguishing Media	Water, sand, CO_2, dry chemical, fire extinguisher

6. Accidental Release Measures

Personal Accidental Release	Wash with soap at once when contacting with skin
Environmental Accidental Release	Wipe leakage off with a cloth. Absorb with sand and place in steel or plastic containers

7. Handling and Storage

Should be stored above 10℃ and below 45℃
Keep handling and storage equipments dry and clean

8. Exposure Controls

Respiratory Protection	Normally not necessary at room temperature
Hand Protection	PVC gloves
Eye Protection	Safety Goggles
Body Protection	Overalls, apron and boots

9. Physical and Chemical Properties

Appearance	Clear oily yellowish liquid
Odor	Odorless
Boiling Point	
Vapor Pressure	
Flash point, ℃>	280^0C
Specific Gravity (20℃)	0.985~0.995

10. Stability and Reactivity

Stability	Stable under normal conditions.
Possible Hazardous Reactions	Hazardous polymerization may occur when temperature above 45℃
Materials to Avoid	Strong acid and dust at high temperature

11. Toxicological Information

No published toxicity data is known.

12. Ecological Information

No available data

13. Disposal Considerations

Recommended Method	Incineration

14. Transport Information

Not a hazardous item for transport

All data on this MSDS is for reference only. Neither the named supplier nor any of its subsidiaries assumes any liability for the above information. The materials may present unknown hazards so it should be used with caution. Regulatory requirements may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with local laws.

Revision Date: 07.04.2010

1) Chemical Product and Enterprise Logo

Trade name

Jeco Blue JHB-706SD

Intended use of the product

Industry sector:	Industrial Performance Chemicals Paints, lacquers and varnishes industry Polymers industry Printing Inks Industry
Type of use:	Colorant/organic pigment

Identification of the company

Jeco Pigment China Co., Ltd.

No. 351 Minfeng Road, Pudong New District
201209 Shanghai, China
Telephone no. : +86 21 68726669

2) Hazard Summary

Main physical and chemical hazard information

Certain special hazardous property

Organic substances in powder form may have the potential to cause dust explosions.

Symbols

3) Ingredient/Composition information

Product type: Substance

Chemical characterization

C.I. Pigment Blue 15：0

Identification Code:	JHB-706SD
Chemical Formula:	$C_{32}H_{16}CuN_8$
Synonyms:	
C.I. NO.:	Pigment Blue 15：0 (74 160 α-型)
C.A.S. NO.:	**147-14-8**

Composition information

Chemical Name	Cas No.	Percentage
Pigment Blue 15:0	**147-14-8**	100

4) First-aid Measures

General information

Seek medical assistance if discomfort continues

After inhalation

Remove the casualty into fresh air and keep him calm.

After contact with skin

In case of contact with skin, clean with soap and water.

After contact with eyes

Rinse the affected eye with plenty of water, at the same time keep the unaffected eye well protected.

Revision Date: 07.04.2010

After ingestion
If swallowed do not induce vomiting, seek medical advice and show safety datasheet or label

5) Fire Safety Measures

Suitable extinguishing media
Water spray jet
Foam

Extinguishing media that must not be used for safety reasons
Full water jet
Carbon dioxide
Dry powder

Special hazards from the substance itself, its combustion products or from its vapours
In case of fires, hazardous combustion gases are formed: Carbon monoxide (CO)
Carbon dioxide (CO_2)
Nitrogen oxides (NO_x)

Special protective equipment for firefighting
Use self-contained breathing apparatus

6) Leak Emergency Treatment

Environmental precautions
Do not allow entry to drains, water courses or soil

Methods for cleaning up/taking up
Take up mechanically
Avoid dust formation and electrical charging (sparking) because dust explosion might occur.
When picked up, treat material as prescribed under heading "Disposal".

7) Operation, Disposal and Storage

Advice on safe handling
When used and handled appropriately no special measures are needed
Avoid dust formation.

Advice on protection against fire and explosion
Take precautionary measures against electrostatic charges - earthing necessary during loading operations.
Keep away from sources of ignition
Dust can form an explosive mixture with air.

Further information on storage conditions
Keep container dry

8) Exposure Control and Individual Protection

Ingredients with occupational exposure limits to be monitored
Particles not otherwise regulated
Occupational Exposure Limit for Hazardous Agents in the Workplace (amended)
China OEL - Occupational Exposure Limit for Hazardous Agents in the Workplace
Revision : : 01/01/2008
Permissible concentration-Time Weighted Average (8 hours).
Values: 12 mg/m^3

Revision Date: 07.04.2010

Particles not otherwise regulated
Occupational Exposure Limit for Hazardous Agents in the Workplace (amended)
China OEL - Occupational Exposure Limit for Hazardous Agents in the Workplace
Revision : : 02/01/2009
Permissible concentration-Time Weighted Average (8 hours).
Values: 10 mg/m3

General protective measures
Observe the usual precautions for handling chemicals.

Hygiene measures
Wash hands before breaks and after work.
Use barrier skin cream.
Remove soiled or soaked clothing immediately and clean thoroughly before using again.

Respiratory protection :	Wear dust mask when handling large quantities
Hand protection :	Nitrile rubber gloves. Minimum breakthrough time (glove): not determined Minimum thickness (glove): not determined Observe the information of the glove manufacturers on permeability and breakthrough times and other workplace requirements
Eye protection :	safety glasses
Body protection :	working clothes

9) Physical and Chemical Properties

Physical state/shape:	Powder
Color:	Blue
Smell:	Not specified
pH value :	6.0 - 9.0 (20 °C)
Melting point (decomposition) :	Applies to pigments - No melting point up to the decomposition temperature.
Flash point :	Not applicable
Combustion number :	BZ3 Local combustion without spreading (20 °C)
Vapour pressure :	Not applicable
Density :	1.6 g/cm^3 (20 °C)
Solubility in water :	Insoluble
n-Octanol/water partition coefficient (log Pow) :	Not determined
Self-ignition temperature :	Not determined
Thermal decomposition :	>220 °C (Heating rate : 3 K/min) Method : DTA Closed cup
Specific surface area :	Appr. 64 m^2/g
Viscosity (dynamic) :	cannot be determined

Further information
No incompatible substance known.

Revision Date: 07.04.2010

10) Stability and Reactivity

Hazardous reactions

When handled and stored appropriately no dangerous reactions are known

Dangerous decomposition products

11) Toxicological Information

Acute oral toxicity :	LD50 > 2,000 mg/kg (rat) The product has not been tested. The information is derived from the properties of the individual components.
Skin irritation or corrosion :	non-irritant (rabbit)
Eye irritation or corrosion :	non-irritant (rabbit eye)
Respiratory or skin allergies :	non-sensitizing

12) Ecological Information

Fish toxicity :	not tested.
Daphnia toxicity :	not tested.
Algae toxicity :	not tested.
Persistency and degradation (Biodegradability) :	not tested.
Bacteria toxicity :	not tested.

Remarks

No data can be given, owing to the product's insolubility in water.

13) Waste Disposal

Residual wastes

Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and/or the competent Authorities

Contaminated container and package

Packaging that cannot be cleaned should be disposed of as product waste

14) Transport Information

IATA	not restricted
IMDG	not restricted
ADR	not restricted
RID	not restricted

Revision Date: 07.04.2010

15) Information on Laws and Regulations

International Inventories

Country or region	Listed or not	Country or region	Listed or not
TSCA (U.S.A.)	listed	MITI/ENCS (Japan)	listed
DSL (Canada)	listed	ECL (Korea)	listed
EINECS (Europe)	listed	PICCS (Philippines)	listed
AICS (Australia)	listed	IECSC (China)	listed
HASNO (New Zealand)	listed		

Regulatory information regarding this substance in other country or region (not listed on above mentioned country or region) should be examined by your own responsibility.

16) Other information

The data are based on the current state of our knowledge, and are intended to describe the product with regard to the requirements of safety. The data should not be taken to imply any guarantee of a particular or general specification. It is the responsibility of the user of the product to ensure to his satisfaction that the product is suitable for the intended purpose and method of use. We do not accept responsibility for any harm caused by the use of this information. In all cases, our general conditions of sale apply.

Revision Date: 07.04.2010

1) Chemical Product and Enterprise Logo

Trade name

Jeco Blue JHB-402SD

Intended use of the product

Industry sector:	Industrial Performance Chemicals Paints, lacquers and varnishes industry Polymers industry Printing Inks Industry
Type of use:	Colorant/organic pigment

Identification of the company

Jeco Pigment China Co., Ltd.

No. 351 Minfeng Road, Pudong New District
201209 Shanghai, China
Telephone no. : +86 21 68726669

2) Hazard Summary

Main physical and chemical hazard information

Certain special hazardous property

Organic substances in powder form may have the potential to cause dust explosions.

Symbols

3) Ingredient/Composition information

Product type: Substance

Chemical characterization

C.I. Pigment Blue 15：3

Identification Code:	JHB-402SD
Chemical Formula:	$C_{32}H_{16}CuN_8$
Synonyms:	
C.I. NO.:	Pigment Blue 15：3 (74 160 β -型)
C.A.S. NO.:	147-14-8

Composition information

Chemical Name	Cas No.	Percentage
Pigment Blue 15:3	147-14-8	100

4) First-aid Measures

General information

Seek medical assistance if discomfort continues

After inhalation

Remove the casualty into fresh air and keep him calm.

After contact with skin

In case of contact with skin, clean with soap and water.

After contact with eyes

Rinse the affected eye with plenty of water, at the same time keep the unaffected eye well protected.

Revision Date: 07.04.2010

After ingestion
If swallowed do not induce vomiting, seek medical advice and show safety datasheet or label

5) Fire Safety Measures

Suitable extinguishing media
Water spray jet
Foam

Extinguishing media that must not be used for safety reasons
Full water jet
Carbon dioxide
Dry powder

Special hazards from the substance itself, its combustion products or from its vapours
In case of fires, hazardous combustion gases are formed: Carbon monoxide (CO)
Carbon dioxide (CO_2)
Nitrogen oxides (NO_x)

Special protective equipment for firefighting
Use self-contained breathing apparatus

6) Leak Emergency Treatment

Environmental precautions
Do not allow entry to drains, water courses or soil

Methods for cleaning up/taking up
Take up mechanically
Avoid dust formation and electrical charging (sparking) because dust explosion might occur.
When picked up, treat material as prescribed under heading "Disposal".

7) Operation, Disposal and Storage

Advice on safe handling
When used and handled appropriately no special measures are needed
Avoid dust formation.

Advice on protection against fire and explosion
Take precautionary measures against electrostatic charges - earthing necessary during loading operations.
Keep away from sources of ignition
Dust can form an explosive mixture with air.

Further information on storage conditions
Keep container dry

8) Exposure Control and Individual Protection

Ingredients with occupational exposure limits to be monitored
Particles not otherwise regulated
Occupational Exposure Limit for Hazardous Agents in the Workplace (amended)
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Smell:	Not specified
pH value :	6.0 - 9.0 (20 °C)
Melting point (decomposition) :	Applies to pigments - No melting point up to the decomposition temperature.
Flash point :	Not applicable
Combustion number :	BZ3 Local combustion without spreading (20 °C)
Vapour pressure :	Not applicable
Density :	1.4 g/cm^3 (20 °C)
Solubility in water :	Insoluble
n-Octanol/water partition coefficient (log Pow) :	Not determined
Self-ignition temperature :	Not determined
Thermal decomposition :	>220 °C (Heating rate : 3 K/min) Method : DTA Closed cup
Specific surface area :	Appr. 58m^2/g
Viscosity (dynamic) :	cannot be determined

Further information
No incompatible substance known.

Revision Date: 07.04.2010

10) Stability and Reactivity

Hazardous reactions

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Remarks

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Residual wastes

Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and/or the competent Authorities

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LG Chem

Material Safety Data Sheet

LGflex GL300

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CAS NUMBER: 6422-86-2
RTECS NUMBER: WZ0883500

SUBSTANCE: DI(2-ETHYLHEXYL)TEREPHTHALATE

TRADE NAMES/SYNONYMS:
BIS(2-ETHYLHEXYL) TEREPHTHALATE; DI(2-ETHYLHEXYL) TEREPHTHALATE; 1,4-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL)ESTER; DOTP; GL300

CHEMICAL FAMILY:
Ester, carboxylic, aromatic

CREATION DATE: 05/28/07

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT : DI(2-ETHYLHEXYL)TEREPHTHALATE
CAS NUMBER : 6422-86-2
PERCENTAGE : 100

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=1 REACTIVITY=0

EMERGENCY OVERVIEW: COLOR: Colorless
Physical form: Liquid
Odor: Faint odor.
Low hazard for usual industrial or commercial handling by trained personnel.

POTENTIAL HEALTH EFFECTS
Inhalation: Short term exposure: No Information is available
Long term exposure: No Information is available
Skin contact: Short term exposure: Irritation.

Long term exposure: No Information is available
Eye contact: Short term exposure: No Information is available
Long term exposure: No Information is available

SECTION 4 FIRST AID MEASURES

INHALATION:
FIRST AID- If symptomatic, move to fresh air immediately.
Get medical attention if symptoms persist.

SKIN CONTACT:
FIRST AID- Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention if symptoms persist.

EYE CONTACT:
FIRST AID- Wash eyes immediately with large amounts of water
If easy to do, remove contact lenses. Get medical attention if symptoms persist.

INGESTION:
FIRST AID- Seek medical advice.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARD:
Slight fire hazard when exposed to heat or flame.

EXTINGUISHING MEDIA:
Dry chemical, carbon dioxide, water spray or regular foam

FIREFIGHTING:
Move container from fire area if you can do it without risk. Do not scatter spilled material with high-pressure water streams. Dike fire-control water for later disposal

Use agents suitable for type of surrounding fire. Avoid breathing hazardous vapors, keep upwind.

FLASH POINT: 460 F (238 C) (OC)
FLAMMABILITY CLASS(OSHA): IIIB

SECTION 6 ACCIDENTAL RELEASE MEASURES

Absorb spill with vermiculite or other insert material, then place in a container for chemical waste.

FOR LARGE SPILL : Flush spill area with water spray. Prevent run off from entering drains, sewers, or steams

SECTION 7 HANDLING AND STORAGE

PERSONAL PRECAUTIONARY MEASURES : No special precautionary health measure should be needed under anticipated conditions of use.
STORAGE : Keep container closed.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS: no data available

VENTILATION:
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

EYE PROTECTION:
It is good industrial hygiene practice to minimize eye contact.

CLOTHING:
It is good industrial hygiene practice to minimize skin contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

DESCRIPTION: Almost odorless, colorless to pale yellow, oily liquid.
MOLECULAR WEIGHT: 390.56
MOLECULAR FORMULA: C-H4-(C-O2-C-H2-C-H-(C2H5)-(CH2)3-C-H3)2
BOILING POINT: 752 F (400 C)
FREEZING POINT: -54 F (-48 C)
VAPOR PRESSURE: 1.0 mmHg @ 20 C
VAPOR DENSITY: -

SPECIFIC GRAVITY: 0.9835
WATER SOLUBILITY: no data available
PH: no data available
ODOR THRESHOLD: no data available
EVAPORATION RATE: no data available
SOLVENT SOLUBILITY: Negligible

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY:
Stable under normal temperatures and pressures.

INCOMPATIBILITIES:
Material reacts with strong oxidizing agents.

POLYMERIZATION:
Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

SECTION 11 TOXICOLOGICAL INFORMATION

Oral LD-50 (rat) > 5,000 mg/kg (highest dose tested)
Oral LD-50 (mouse) > 5,000 mg/kg (highest dose tested)
Dermal LD-50 (guinea pig) > 19.68 g/kg (highest dose tested)
Skin Irritation (guinea pig) slight
Eye Irritation (rabbit) slight

SECTION 12 ECOLOGICAL INFORMATION

ACUTE AQUATIC EFFECTS DATA :
96 h LC-50 (fathead minnow) : > 984 mg/l (nominal concentration)
96 h EC-50 (oyster) : > 0.624 mg/l
96 h LC-50 (ramshorn snail) : > 984 mg/l
48 h EC-50 (daphnid) : > 0.0014 mg/l

SECTION 13 DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state or local laws. Incinerate.

SECTION 14 TRANSPORT INFORMATION

No classification currently assigned

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:
TSCA inventory status: Y
TSCA 12b export notification: Not listed.
Cercla section 103 (40CFR302.4): N
SARA section 302 (40CFR355.30): N
SARA section 304 (40CFR355.40): N
SARA hazard categories, SARA sections 311/312 (40CFR370.21): N
Acute: Y
Chronic: N
Fire: N
Reactive: N
Sudden release: N
OSHA process safety (29CFR1910.119): N

State regulations:
California proposition 65: N

SECTION 16 OTHER INFORMATION

LG Chemical LTD.
LG Twin Towers 20, Yoido-dong, Yongdungpo-gu, Seoul, Korea

MITSUBISHI RAYON Co.,Ltd.
6-41 KONAN, 1-CHOME, MINATO-KU, TOKYO, 108-8506 JAPAN

MATERIAL SAFETY DATA SHEET

Product name:	Metablen™ P-533J
Freight classification:	PLASTICS, White powder
Used for:	Modifier for Plastics

1. COMPANY IDENTIFICATION

Manufacturer (Company)

Name:	MITUBISHI RAYON Co.,Ltd.
Place:	6-41 KONAN, 1-CHOME, MINATO-KU, TOKYO, 108-8506 JAPAN
Dept:	Metablen Department
Telephone:	+81-3-5495-3068
Facsimile:	+81-3-5495-3200
Emergency Phone:	+81-3-5495-3068

2. HAZARD INFORMATION

GHS

Classification: not classified.
Symbol: not applicable
Signal Word: none
Hazard Statement: none

Other Hazardous Information that is not applicable GHS Classification

Emergency over view:

White powder, slight odor, can burn in a fire but not ordinarily an emergency problem.
Slippery, can cause falls if walked on.

Potential health effect:

Inhalation:

Excess monomer vapors, given off at higher temperatures, may cause irritation of eyes a mucous membrane, nausea, headache, and dizziness.

Eyes contact:

Fine dust may cause dust inhalation during handling. Fine particles and vapor of monomers may irritate the eyes.

Skin contact:

Fine dust may irritate the skin. Persons who are allergic may eruption and/or irritate, rarely.

3. COMPOSITION /INFORMATION ON INGREDIENTS

Chemical name:	Alkyl methacrylate, Alkyl acrylate co-polymer
CAS registry number:	nondisclosure
Approx. weight percentage:	98 weight percentage or more
Residual monomer:	Trace

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 99/45/EC

4. FIRST AID MEASURES

Inhalation:
Remove to fresh air. Consult a physician if needed.
Ingestion:
Consult a physician if needed.
Eyes contact:
Flush eyes with large amount of water for at least fifteen minutes to remove dust particles. Consult an eye doctor after flushing eyes.
Skin contact:
Wash affected skin area with soap and water. Consult a dermatologist doctor if erupted and/or irritated.

5. FIRE AND EXPLOSION HAZARD DATA

Flash point:	N.A.
Decomposition temperature:	N.A.
Lower explosion limit:	N.A.
Upper explosion limit:	N.A.
Lower dust explosion limit:	N.A.
Minimum ignition energy:	N.A.

The physical data presented above are typical values and should not be construed as a specification.

Reference: DIANAL LP-3106 (similar product of METABLEN P-533J)

Lower dust explosion limit:	35～40 g/m3
Minimum igniting energy:	1～3 mJ
Limiting oxygen concentration :	10%
Maximum rate of pressure rise (Kst-value) :	400～500 bar・m/sec (Dust explosion class: St 3)

Extinguishing media:
Dry chemical, foam, carbon dioxide, and water fog as needed
Special fire fighting procedure:
Wear MSHA/NIOSH approved self-contained breathing apparatus. Use water spray to cool containers. Avoid use straight stream of water to prevent creating dust cloud. Remove bags of powder from fire area if possible to avoid degradation.
Usual fire and explosion hazard:
Burn vigorously with intense heat. Polymer dust ignites or dust explodes.

6.ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of material are released or spilled:
Ventilate working area. Remove ignition sources. Sweep up and shovel into containers for recovery or disposal. Consider reuse if not contaminated. If dust concentration is high, it should be sprayed small amount of water on the material to keep dust to minimize, and sweep them up.

7. HANDLING AND STORAGE

Avoid eye and skin contact. Handle and process material in the well-ventilated place.

Storage temperature:	Maximum thirty-five (35) degrees Celsius.		
Indoor:	YES	Heated:	NO
Humid place:	NO	Refrigerated:	NO
Out door:	NO		

Keep materials at cool and dry place as the same level as of general warehouse. Do not store close to or in such hot places as steam pipes, heaters, and other heat generating sauces. On the other hand, fine dust of the materials may induce

dust explosion under certain conditions (See section 5) due to the material is an organic Hydrocarbon inflammable material.

Keep handling area and processing equipment clean. Pay particular attention to the storage tanks and hoppers, to avoid dust explosion. Electrostatic eliminators should be affixed to such equipment as storage tank, hopper and transferring pipe, to avoid ignition. All electrical switches in these areas should be used anti-explosion type based on local regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation type:
Ventilate at local handling area to avoid generating fine dust. If overheating occurs during processing, exhaust ventilation should be provided.
Respiratory protection:
Wear MSHA/NIOSH approved or equivalent dust respirator.
Protective gloves:
Recommend use impervious gloves to avoid irritation.
Eye protection:
Safety glasses with side shield should be used.
Other protective equipment:
Eye-washing facility should be provided.

9. PHYSICAL AND CHMICAL PROPERTY

Appearance:	White powder
Odor:	Slight odor of monomers
Viscosity:	N.A. (not applicable)
Melting point:	N.A.
Freezing point:	N.A.
Boiling point:	N.A.
Vapor pressure (mm Hg):	N.A.
Vapor density (AIR=1):	N.A.
Solubility in water:	Insoluble
Percentage volatile:	1.0 weight percentage or less
Specific gravity:	N.A.
Evaporation rate:	N.A.

10. STABILITY AND REACTIVITY

Stability: Stable
Condition to avoid:
Hot Place, close to heat generating equipment, and so on.
Hazardous decomposition products:
Decomposition is detectable at 240 ℃ but the quantity of gaseous decomposition products remains small until temperature above 400 ℃ are reached.
Decomposition gaseous are Carbon oxide.
Thermal decomposition may generate Methacrylic, Acrylic monomers, and gaseous Carbon mono-oxide.
Hazardous polymerization: Will not occur
Incompatibility (material to avoid): Not known

11. TOXICOLOGICAL INFORMATION

No published toxicity data on this product is known to exist. The product has been produced without using such toxic organic metallic materials as Chromium (Cr), Lead (Pb), Cadmium (Cd), Mercury (Hg), Tin (Sn), and Arsenic (As)

compound. Also, such plasticizers as DOP (n-Di-Octyl phthalate), DOA (n-Di-Octyl adipate), and Polyester plasticizers were not used as raw materials for this product.

12.ECOLOGICAL INFORMATION

There are no available ecotoxicity data.

13.DISPOSAL CONSIDERATIONS

Waste disposal method:

Do not discharge effluent containing this product into municipal sewers or open bodies of water. All recovered material should be transferred to a container for disposal. Incinerate or landfill the wastes in an approved facility that complies with local, state, and national regulations.

14.TRANSPORT INFORMATION

Not classified as dangerous or hazardous for transporting.

15. REGURLATOLY INFORMATION

The material has been listed up to Ministry of Health and Welfare of Japanese Government under the Japanese Chemical substance regulation of low.

16. OTHER INFORMATION

Powder explosion hazard data shown below is the data of DIANAL LP-3106 which powder structure is similar to METABLEN P-533J.

1.Three essential factors for Powder explosion.

Powder explosion requires three elements:

1) Dust clouds 2) Source of ignition 3) Air (Oxygen)

Once all three factors are together, the potential for an explosion exists.

2.Powder explosion characteristics.

1) Lower dust explosion limit.

The Dust Explosion Limits describe the concentration range of types of dusts with air, within an explosion is possible. Based on the lower dust explosion Limit (LEL), an explosion prevention concept can be compiled.
A classification of the explosiveness can be taken from the following table.

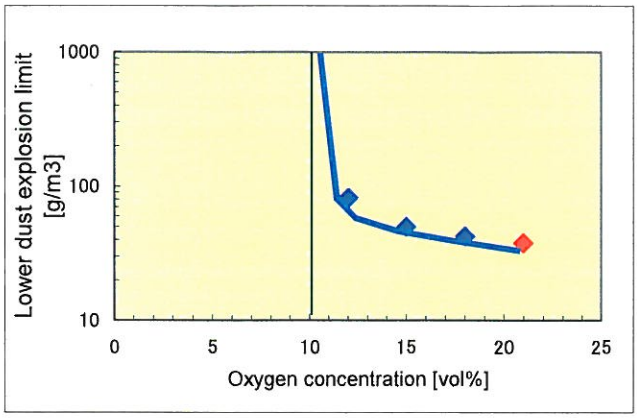
Range	Classification of explosiveness
LEL ≥ 100 g/m3	Low explosive
35 g/m3 < LEL≤ 100 g/m3	explosive
LEL < 35 g/m3	High explosive

Lower dust explosion limit of DIANAL LP-3106 is 35 g/m3. ("explosive" level)

2) Limiting oxygen concentration.

The limiting oxygen concentration is the maximum oxygen concentration in a mixture of an inflammable material with air and inert gas which does not explode in combination with arbitrary fuel concentrations.

Folowing figure shows the Influence of oxygen concentration on lower dust explosion limit of DIANAL LP-3106.



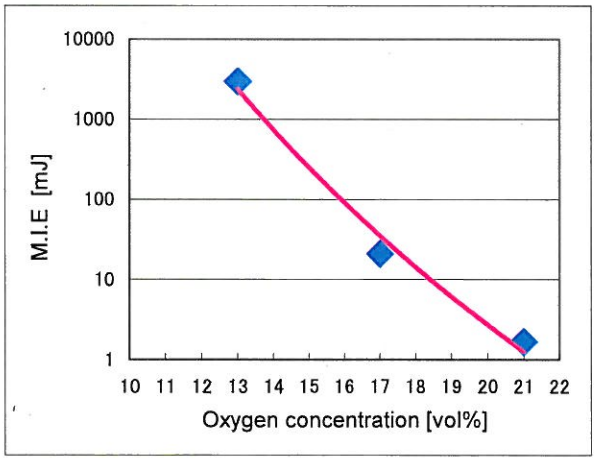
The limiting oxygen concentration of LP-3106 is 10 vol%.
Explosion range disappear under 10vol% oxygen concentration in case of LP-3106.

3) Minimum iginition energy

The minimum ignition energy (MIE) is the smallest electrical power stored in a condenser, which sufficiently ignites an ignitable mixture of a combustible atmosphere by an electrical discharge.
A classification of the inflammability can be taken from the following table.

Ignition Energy Range	Classification of dusts
MIE ≥ 10 mJ	inflammable
3 mJ < MIE≤ 10 mJ	high inflammable
MIE < 3 mJ	extreme inflammable

Folowing figure shows the Influence of oxygen concentration on M.I.E of DIANAL LP-3106.
M.I.E. of LP-3106 in the air is from 1.0 mJ to 3.0 mJ. It belongs the "extreme inflammable" class.



But M.I.E of this powder is higher than general organic solvent (See Table-1), It can be said that we can treat this powder safely by the same way for organic solvent.
When oxygen concentration is lower than 16 vol%, M.I.E. of LP-3106 is more than 100mJ where no ignition occurs caused by static electricity.

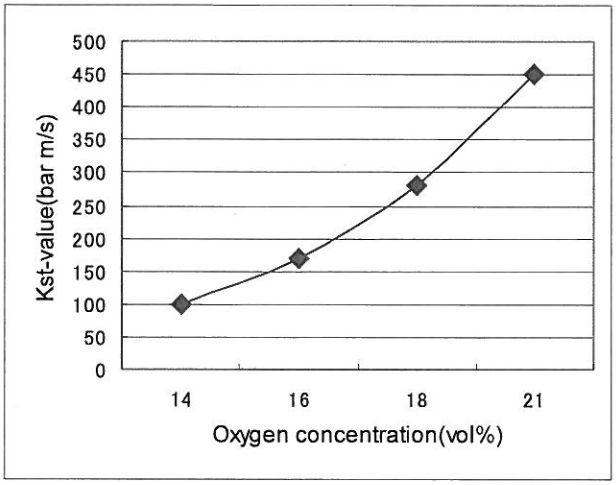
4) Maximum rate of pressure rise

The rate of pressure rise dp/dt describe the violence of reaction of dust/air mixtures of random concentration after ignition in a closed vessel.
The maximum rate of pressure rise depends on the volume. The product of the maximum rate of pressure rise and the third root of the special volume is constant (Cubic Law) and is called **K_{St}-value**.
In accordance to the K-values different dust explosion classes can be defined:

K_{St}-valueWert	Dust explosion class
K_{St}-value < 200 bar m s^{-1}	St 1
200 bar m s^{-1} < **K_{St}-value** < 300 bar m s^{-1}	St 2
K_{St}-value > 300 bar m s^{-1}	St 3

The dust explosion classes give only a hint concerning the dimensioning of preventive concepts/ design measures of explosion protection.

Folowing figure shows the Influence of oxygen concentration on Kst-value of DIANAL LP-3106.



Kst-value of LP-3106 in the air is from 400 to 500 bar m/s. It belongs St-3 class.
In case of LP-3106 violence of explosion is very severe.
When oxygen concentration is lower than 16 vol%, Kst-value of LP-3106 is less than 200bar m/s where we can treat in the same way as general organic powders. (See Table-2)

3. **Explosion protection**
Point is to exculde one of tthree factors for an explosion.

1) Source of ignition
   1-1) Electric sparks
      Use explosion proof type electric apparatus.
   1-2) Static electricity
      a) Ground equipment
      b) Increase humidity of atomosphere by using a humidifier.
      c) Use ionizer to eliminate static of space.
      d) Wear anti-electrostatic type clothes and shoes.
   1-3) Mechanically generated sparks
   ...Use hand-tool of spark proof type.
2) Oxygen(Air)
   2-1) Decrease oxygen concentration down to below L.E.L..and then explosion range disappear.
   2-2) Decrease oxygen concentration and then M.I.E increase and Kst-value decrease.
3) Other
   3-1) Install explosion vent into closed vessel.
   3-2) Install Explosion suppression system.
   3-3) Use wet type dust collector for local exhaust.

Table-1. Minimum ignition energy of various powder and liquid.

Material	Minimum.ignition energy (mJ)	
Wood meal	3-245	*1
Wheat flour	100-540	*1
Tonner	1-10	*1
Sulfur	1-5	*1
Methyl Cellulose	12-105	*1
PVC powder	>2000	*1
Polycarbonate	25	*2
PMMA	15	*2
Magnesium powder	20	*2
Aluminium powder	10	*2
Toluene	2.5	*2
Acetone	1.15	*2
Vinyl acetate	0.7	*2
Ehtyl acetate	0.46	*2
MEK	0.27	*2
Hexane	0.24	*2
Heptane	0.24	*2
Benzene	0.2	*2
Methanol	0.14	*2

*1:"Explosion characteristics for inflammable powders"; Environmental influence research center

*2:"Recommended practice for protection against hazards arising out of static electricity in general industries";

Ministry of Labour Research institute of industrial safety ,Japan.

Table-2. Kst-value of various powders

Powder	Ave.particle size μm	Kst bar・m/s
Wood meal	43	102
Wheat flour	57	87
PVC powder	<10	168
PVC powder	51	63
Tonner	<10	196
Tonner	21	134
Aluminium powder	<10	515
Aluminium powder	22	1100
Magnesium powder	28	508
Magnesium powder	240	12

"Explosion characteristics for inflammable powders"; Environmental influence research center

TAH KONG FINE CHEMICAL （KUN SHAN） CO.LTD.
Material Safety Data Sheet

1.Identification	
Commercial Product Name：	MNPB Yellow QY050-A
Recommended use of the chemical：	Master batch for PVC
Manufacturer：	TAH KONG FINE CHEMICAL （KUN SHAN） CO.LTD. 126, QIN FENG NORTH QIANDENG TOWN，KUN SHAN JIANGSU，CHINA. TEL；(0512) 57469992 FAX；(0512) 57469997
Emergency Tel. No.：	(0512) 57469992
2. Hazard identification	
Hazard classification of the product：	It is outside the scope of GHS.
Hazard symbols：	-
Signal word：	-
Hazard statement：	-
Prevention：	-
Other hazards：	Inhalation：Thermal decomposition(above 200℃)yield the following：hydrogen chloride irritate the respiratory tract. Eye Contact：Material can cause the following：slight irritation.
3. Composition/information on ingredients	
Mixure	There is no controlled substance.
Compositon：	-
CAS No.：	-
Concentration ranges：	-
4.First aid measures	
Eyes：	Flush eyes with a large amount of water for at least 15minutes.
Skin ：	Wash affected skin areas thoroughly with soap and water.
Inhalation ：	Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Get immediate medical attention.
Ingestion ：	-
5.Fire-Fighting Measures Fire：	
Suitable Fire Extinguishing Media：	Water, foam, carbon dioxide, dry chemical.

Unusual fire and explosion hazards：	Non-Combustion, Heat generates toxic fumes of the following：hydrogen chloride, carbon monoxide, carbon dioxide.
Fire fighting Procedures：	Normal fire fighting procedures should be followed. Exposed firefighters must wear NIOSH-approved positive pressure self-contained breathing apparatus with full-face mask and full protective clothing.

6.Accidental release measure

Personal precautions ：	Do not inhale dust use dust mask, Ensure good ventilation and local exhaustion of the working area.
Environmental precautions ：	not applicable
Measures in Case of Spillage ：	Sweep up and place in suitable container for waste disposal. The waste should not be incinerated. Store it in a ventilated area.

7.Handling and storage

Handling：	When using do not eat, drink or smoke. Wash thoroughly after handling.
Storage:	Keep away from heat, spark ,and flames .Store it in a ventilated area.

8.Exposure controls and personal protection

Engineering controls：	not applicable
Airborne Exposure Limits：	TWA：- STEL：-
Personal Respirators：	Do not inhale dust use dust mask, Ensure good ventilation and local exhaustion of the working area.
Skin Protection：	-
Eye Protection：	Use chemical safety goggles.
Other Control Measures：	-

9.Physical and chemical properties

Appearance：	Sheet. Yellow.
Odor：	Odorless.
Odor threshold：	-
Melting point：	-
PH：	-
Initial boiling point：	-
Flammability (solid, gas)：	-
Decomposition temperature：	-
Flash point：	-
Auto-ignition temperature：	-
Flammable limits：	-
Vapor pressure：	-
Vapor density：	-

Relative density： Solubility： Partition coefficient (N-octanol/water)： Evaporation rate ：	0.8~1.2 Indissoluble in water. - -
10.Stability and reactivity	
Thermal Stability ： Hazardous Decomposition Production ： Incompatibility ：	stable under specified conditions of storage ,shipment and/or use. Thermal decomposition may yield the following：hydrogen chloride -carbon monoxide -carbon dioxide. Heat and high temperatures.
11.Toxicological Information	
Acute effects： Acute(short-term)Toxicity	Skin： - Eyes： - Inhalation：- Ingestion： - Acute oral toxicity (LD50): - Acute dermal toxicity (LD50): - Acute toxicity of the vapor (LC50): -
12.Ecological information	
Environmental Toxicity：	LC50 (fish)：- EC50 (crustacea)：- BCF：-
13.Disposal consideration	
Disposal ：	Sweep up and place in suitable container for waste disposal. The waste should not be incinerated. Store it in a ventilated area.
14.Transport Information	
Proper Shipping Name： UN No.： Hazard class：	- - -
15.Regulatory information	
Ensure this material in compliance with federal requirements and ensure conformity to Local regulations in your country.	
16.Other Information	
Validated by MSDS administrator on 2010/06/22 Version：1.01 MSDS administrator：Jin-Fu Pan Tel .：（0512） 57469992	

This Information is based on our current of level knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties

nubiola
inorganic pigments

MATERIAL SAFETY DATA SHEET

(According to EC Comission 2001/58/EC)

Revised: April 15, 2005 UMB/ST/EN08
Date of Issue: May 20, 2005

ULTRAMARINE BLUE

1. - Product Name

Registered name:

	ULTRAMARINE BLUE
Description:	Pigment Blue 29 C.I. 77007
Uses:	Coloration of plastics, soaps, food contact packaging, paints, cosmetics, inks, artists' colours, etc.
Manufacturer:	**NUBIOLA GRUPO**
Head Office:	**Gran Vía Corts Catalanes 648** **08010 BARCELONA**
Telephone:	0034 - 93 - 343 57 50

Emergency Information: Institute of Toxicology 0034 – 91 - 562 04 20

2. - Composition / Information on Ingredients

Chemical Characterization:
Sodium Aluminium Sulphosilicate
Nº CAS: 57455-37-5 / 101357-30-6
EINECS: 309-928-3
MITI (Japan): 1-22
TSCA (U.S.A.), AICS (Australia), DSL (Canada) see Nº CAS.

Components are not subjected to any special labelling according to Directive 67/548/EC and its last amendment, Directive 2004/73/EC.

3. - Hazards Identification

Ultramarines are totally atoxic products for human health and environment. (See sections 10 and 15)

4. - First Aid Measures

General Advice: Take off dirty clothes.

- After inhalation: Take the victim into the fresh air.
- After skin contact: Flush away with soap and water and rinse.
- After eye contact: Flush eyes with plenty of water (10-15 min.).
- After accidental ingestion. Rinse mouth with water and drink water. Call a physician.

5.- Fire-fighting Measures

Not flammable product.
Suitable extinguishing media
No special extinguishing media
Special risk posed by the substance or by the actual preparation, its combustionproducts or gases discharged
Sulphur dioxide gas may be released.
Special protective equipments
When extinguishing fires, use breathing apparatus with an independent source of air.

6. - Accidental Release Measures

Personal Precautions
Avoid dust development. (See sections 7 and 8)
Environmental Precautions
Do not empty into drains, rivers, lakes or sewages.
Collect under wet conditions.

7. - Handling and Storage

Handling
Avoid breathing dust and use with adequate ventilation.
Spots on skin and clothes can be easily washed.
Requirements to be met by storerooms and containers
Keep containers tightly sealed.
Packaging: bags (paper, plastic, cloth) or drums.

8. - Exposure Controls and Personal Protection

Additional information about engineering measures
No special measures must be observed. Provision is required to keep exposure below permissible limit:
Ceiling Value: < 10 mg/m^3 (8 hours)
TWA: < 5 mg/m^3 (8 hours)
Personal protective equipment
If workplace limits are exceeded, a gas mask approved for this particular job must be worn:
Filter P2 (Solid and liquid particles) (DIN 3181)

MATERIAL SAFETY DATA SHEET

(According to EC Comission 2001/58/EC)

Revised: April 15, 2005 UMB/ST/EN08
Date of Issue: May 20, 2005

ULTRAMARINE BLUE

9. - Physical and Chemical Properties

Form:	Powder
Colour:	Blue
Odour:	Odourless
pH:	7-9 (ASTM 1208-78)
Melting Point	>1000 ºC
Explosive properties	The material is not explosive
Solubility:	
- In water:	Insoluble
- In solvents:	Insoluble
Density (20°C):	2.35 g/cm^3

10. - Stability and Reactivity

Stability: air stable above 350 ºC.
Conditions to avoid: Above 400ºC in air presence sulphur dioxide gas is released. Hydrogen Sulphide may be released in contact with acids. (Not resistant grades)
Attention: no dangerous in soap manufacturing processes; fatty acids are very weak acids and they are totally neutralized when adding the pigment.

11. - Toxicological Information

Non-toxic products
LD50/ oral/ rat: >10 g/kg.
No mutagenic and no teratogenic products.

12. - Ecological Information

Avoid any discharge into environment.
LC50 (fish) >32000 mg/kg
WGK= 1

13. - Disposal Consideration

Product
In accordance with local official regulations pass on to an appropiate waste dump. The product is no water-soluble and can thus be removed mechanically in suitable plants.

Contaminated packaging
Empty packaging can be recycled.

14. - Transport Information

Not classified as hazardous under transport regulations.

15. - Regulatory Information

FDA

Ultramarines are cleared in 21 CFR:

- Part 73 under § 73.50 (Color Additives Approved for Use in Human Food)(Salt intended for animal feed)
- Part 73 under § 73.2725 (Color Additives Approved for Use in Cosmetics)(Externally applied cosmetics including eye area use)
- Part 178 under §178.3297 (Colorants for Polymers)
- Part 177 under § 177.2600 (Colorants in Rubber Articles intended for repeated Use)

State Regulations

Ultramarines do not appear on the following state Right to Know lists:

California Proposition 65
New Jersey RTK Hazardous Substance List
Pennsylvania Hazardous Substances List
Florida Toxic Substance List
Massachusetts Hazardous Substance List
Michigan Critical Materials Register
Minnesota Hazardous Substance List
… / …

Others

Canadian Environmental Protection Act Domestic Substances List **(DSL)**
Australian Inventory of Chemical Substances **(AICS)**
Japan Hygienic Olefin and Styrene Plastic Association **(JHOSPA)**
CONEG- Developed Model Toxics in Packaging Legislation
Japan Toy Association (**JTA**)
ASTM F963-92 "Standard Consumer Specification on Toy Safety" they fit the requirements for heavy metals migration.

Packaging
CONEG- Developed Model Toxics in Packaging Legislation
Directive 94/62/EEC: EU Directive on Packaging and Packaging Waste; comparable to US CONEG Legislation

European Directives

Resolution AP 89 (I): use of colorants in plastic materials and articles that may come into contact with foodstuffs.
Directive 2004/73/EC (last amendment of Dir. 67/548/EEC): Ultramarine Blues are not listed in Annex I (Dangerous Substances)
Directive 76/768/EEC; pigment accepted for its use in cosmetics.
European Standard EN 71-3; they fit migration limits for materials in toys manufacturing.

16. - Further Information

Restricted to professional users.

Users/Distributors of our products must handle and store them according to existing regulations. These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not stablish a legally valid contractual relationship.

Modifications to previous issue

New format

SHINTECH
Shintech Inc., 5618 Highway 332 East, Freeport, Texas 77541, (979) 233-7861

MATERIAL SAFETY DATA SHEET
POLYVINYL CHLORIDE RESIN

SECTION I

MANUFACTURERS NAME	TELEPHONE NUMBER	ADDRESS
SHINTECH INCORPORATED	(979) 233-7861	5618 EAST HIGHWAY 332 FREEPORT, TX 77541
CAS NUMBER	**CHEMICAL FAMILY**	**DATE OF PREPARATION**
9002-86-2	ORGANIC POLYMER	MARCH 1, 1990
CHEMICAL NAME/SYNONYMS	**FORMULA**	**REVIEWED**
POLYVINYL CHLORIDE, PVC, VINYL RESIN	$(CH_2\text{-}CHCl)_n$	JANUARY 4, 2009

SECTION II – HAZARDOUS INGREDIENTS

POLYVINYL CHLORIDE CONTAINS VINYL CHLORIDE MONOMER IN THE ORDER OF 0.1 TO 10 PPM BY WEIGHT. VINYL CHLORIDE MONOMER IS A CANCER-SUSPECT AGENT. THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION SPECIFICALLY REGULATE MANUFACTURING, HANDLING, AND PROCESSING OF POLYVINYL CHLORIDE. SUCH REGULATIONS HAVE BEEN PUBLISHED AS 29 CFR 1910.1017. IT IS NECESSARY THAT HANDLERS AND PROCESSORS OF POLYVINYL CHLORIDE BE FAMILIAR WITH THESE REGULATIONS. NONE OF THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET SHOULD BE CONSTRUED TO CONTRADICT OR SUPERSEDE THESE REGULATIONS.

SARA 311/312 – NO COMPONENTS ARE REPORTABLE AT CONCENTRATIONS FOUND IN THE UNCONTAMINATED RESIN.

SECTION III – PHYSICAL DATA (TYPICAL DATA, NOT SPECIFICATIONS)

BOILING POINT	SOLUBILITY IN WATER	SPECIFIC GRAVITY ($H_2O=1$)
SOFTENS ABOVE 175 DEGREES F	NOT SOLUBLE	1.4
VAPOR PRESSURE (MM HG)	**% VOLATILE BY VOLUME**	**VAPOR DENSITY (AIR=1.0)**
N/A	0.5 %	N/A

APPEARANCE AND ODOR

FREE-FLOWING, ODORLESS,
WHITE GRANULATE SOLID

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT

NOT DETERMINED

FLAMMABLE LIMITS IN AIR

% BY VOLUME LOWER LIMIT: UNKNOWN
UPPER LIMIT: UNKNOWN

EXTINGUISHING MEDIA

DRY POWDER OR CO2

NOTE: DECOMPOSED POLYVINYL CHLORIDE RESIDUE MAY FLOAT ON WATER.

SPECIAL FIRE FIGHTING PROCEDURES

RESPIRATORY PROTECTION IS NECESSARY DUE TO PRESENCE OF HYDROGEN CHLORIDE.

UNUSUAL FIRE AND EXPLOSION HAZARDS

UPON PROLONGED HEATING, POLYVINYL CHLORIDE WILL DECOMPOSE WITH EMISSION OF HYDROGEN CHLORIDE (HCl), AN IRRITATING TOXIC GAS. THE DECOMPOSED RESIDUE WILL BURN IN THE FASHION OF A HYDROCARBON TAR.

SECTION V – HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

NONE KNOWN TO SHINTECH. POLYVINYL CHLORIDE CONTAINS VINYL CHLORIDE MONOMER, A CANCER-SUSPECT AGENT.

EFFECTS OF OVEREXPOSURE

MODERATE ALLERGIC DERMATITIS HAS BEEN REPORTED UPON SKIN CONTACT. ACUTE OVEREXPOSURE EFFECTS ARE NOT KNOWN TO SHINTECH.

EMERGENCY AND FIRST AID PROCEDURES

SKIN CONTACT WITH POLYVINYL CHLORIDE SHOULD BE TREATED BY ROUTINE HYGIENIC PRACTICES, SUCH AS WASHING WITH SOAP AND WATER. INHALATION AND EYE CONTACT SHOULD BE TREATED AS WITH OTHER INERT SOLIDS.

SECTION VI – REACTIVITY DATA

STABILITY

THERMALLY UNSTABLE.

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.

CONDITIONS TO AVOID

POLYVINYL CHLORIDE IS UNSTABLE TO HEAT. IT DECOMPOSES UPON PROLONGED HEATING, EMITTING HYDROGEN CHLORIDE (HCl).

POLYVINYL CHLORIDE IS KNOWN TO DISSOLVE IN SOME AROMATIC AND HALOGENATED SOLVENTS.

HAZARDOUS DECOMPOSITION PRODUCTS

HYDROGEN CHLORIDE (HCl)

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

AVOID EXCESSIVE SKIN CONTACT OR INHALATION. SPILLED MATERIAL SHOULD OTHERWISE BE HANDLED AS AN INERT SOLID, IN THE FASHION OF SAND.

WASTE DISPOSAL METHOD

DISPOSE OF WASTE IN A LICENSED LANDFILL OR BY INCINERATION IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

DETAILED REQUIREMENTS ARE SPECIFICALLY SET BY OSHA REGULATIONS, 29 CFR 1910.1017.

EYE PROTECTION

SAFETY GLASSES

OTHER PROTECTIVE EQUIPMENT

THE PROTECTIVE EQUIPMENT REQUIREMENTS FOR CERTAIN JOB FUNCTIONS ARE PRESCRIBED BY OSHA REGULATIONS, 29 CFR 1910.1017.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

POLYVINYL CHLORIDE CAN ACQUIRE A SUBSTANTIAL STATIC ELECTRIC CHARGE. HANDLING AND PROCESSING EQUIPMENT SHOULD HAVE ELECTRICAL GROUNDING. POLYVINYL CHLORIDE RESIN SHOULD BE HANDLED AND STORED IN ACCORDANCE WITH OSHA REGULATION 29 CFR 1910.1017.

SECTION X - DISCLAIMER OF LIABILITY

AS THE CONDITIONS OR METHODS OF USE ARE BEYOND OUR CONTROL, WE DO NOT ASSUME ANY RESPONSIBILITY FOR AND EXPRESSLY DISCLAIM ANY LIABILITY FOR ANY USE OF THIS MATERIAL. INFORMATION CONTAINED HEREIN IS BELIEVED TO BE TRUE AND ACCURATE, BUT ALL STATEMENTS OR SUGGESTIONS ARE MADE WITHOUT WARRANTY, EXPRESS OR IMPLIED, REGARDING ACCURACY OF THE INFORMATION, THE HAZARDS CONNECTED WITH THE USE OF THE MATERIAL OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS REMAINS THE RESPONSIBILITY OF THE USER.

No.351, Minfeng Road, Pudong new District
201209 Shanghai, China
Tel: 86-21-68726669
Fax: 86-21-68729028

TDS-Jeco Blue JHB-706SD

1	Chemical characterization:	Phthalo Blue	
	Colour Index:	Pigment Blue 15:0	No. 74 160
2	Colour properties:		
2.1	Relative tinting strength:	95 - 105 %	
	Reduction:	dH = ± 0.5	CIE lab units
		dC = ± 0.8	CIE lab units
		dE = 0.0 – 1.0	CIE lab units
2.2	Full shade:		
	Hue:	dH = ± 0.5	CIE lab units
	Chroma:	dC = ± 0.8	CIE lab units
		dE = 0.0 – 1.0	CIE lab units
	Transparency:	close to standard, ± 2 visual assessment units	
3	pH-value:	6.0 – 9.0	
4	Specific conductivity:	≤ 0.5 mS/cm	
5	Volatile matter (105℃):	≤ 2.0 %	
6	Sieve residue (DIN 53195):	≤ 0.2%	

Enclosure
Notes to the Product Specification.

This Specification will not be signed. It has been automatically printed.

No.351, Minfeng Road, Pudong new District
201209 Shanghai, China
Tel: 86-21-68726669
Fax: 86-21-68729028

Notes to the Technical Delivery Specification

The subject of these specifications, in addition to the data given, are the test methods by means of which the data have been determined. The test methods can be received if desired. The following notes briefly describe the test and assessment conditions. In other test media and/or under test conditions, these values might differ. Please take information about characteristic fastness values for the product (lightfastness, heatstability, etc.) from the pattern cards.

Note on 2 - Colour properties

Testing of the coloristic properties is carried out in accordance with the test method "Testing of pigments in plastics", in comparison with the standard quality of the product. The test method can be received if desired.
The assessment of the colour properties is carried out visually.

Note on 3 - pH value

An aqueous pigment slurry containing 5 % pigment is filtered and in the filtrate pH value is measured at room temperature in accordance with test method of Jeco pH value measurement.

Note on 4 - Specific conductivity

An aqueous pigment slurry containing 5 % pigment is filtered and in the filtrate specific conductivity is measured in accordance with test method of Jeco's. It is an indication of watersoluble electrolytes contained in the pigment powder.

Note on 5 - Volatile matter

The percentage by mass of matter volatile from a pigment sample is determined at 105 °C by means of an IR lamp. The sample is being heated until it reaches constant weight (according to DIN ISO 787/2).

Note on 6 –Sieve residue

Determination of residue on sieve according to DIN 53195. The mesh width of the sieve amounts to
0.063 mm.