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SAFETY DATA SHEET

1 . IDENTIFICATION

Name of chemical substances: POLYBEST BASE (POLYESTER RESIN FOR FIBER REINFORCED PLASTICS) AMBER
 Kinds of product: Unsaturated polyester resin
 Company name: SUNDAY PAINT Co., Ltd
 Address: 6-1-124 NishiKujou, Konohana-ku, Osaka 554-0012 Japan
 Section in charge: Mayor of customer service
 Phone number: +81-6-6466-6700
 FAX number: +81-6-6466-2751
 Reference number: 0161PSAM-2-DC
 Use: For general use

2 . HAZARDS IDENTIFICATION

GHS classification:

Physicochemical Hazards:

Explosives	:Not classified
Flammable gases	:Not applicable
Flammable aerosols	:Not applicable
Oxidizing gases	:Not applicable
Gases under pressure	:Not applicable
Flammable liquids	:Category 3
Flammable solids	:Not applicable
Self-reactive substances and mixtures	:Classification not possible
Pyrophoric liquids	:Not classified
Pyrophoric solids	:Not applicable
Self-heating substances and mixtures	:Not classified
Substances and mixtures which, in contact with water, emit flammable gases	:Not classified
Oxidizing liquids	:Not classified
Oxidizing solids	:Not applicable
Organic peroxides	:Classification not possible
Corrosive to metals	:Classification not possible

Health hazards:

Acute toxicity - oral	:Not classified
Acute toxicity - dermal	:Not classified
Acute toxicity-inhalation/gases	:Not applicable
Acute toxicity-inhalation/vapour	:Category 5
Acute toxicity-inhalation/dusts and mists	:Classification not possible
Skin corrosion / irritation	:Category 2
Serious eye damage /irritation	:Category 2
Respiratory sensitization	:Category 1
Skin sensitization	:Category 1
Germ cell mutagenicity	:Category 2
Carcinogenicity	:Category 2
Reproductive toxicity	:Category 1
Specific target organ systemic toxicity (single exposure)	:Category 1 (Central nervous system) :Category 3 (Respiratory tract irritation , Narcotic effects)
Specific target organ systemic toxicity (repeated exposure)	:Category 1 (Liver , Blood system , respiratory organs , Nervous system)
Aspiration toxicity	:Not classified

Environmental hazards:

Hazardous to the aquatic environment (acute toxicity) :Category 1

Hazardous to the aquatic environment (chronic toxicity) :Category 2

GHS label elements:

Pictogram or symbol:



Signal words: Danger

Hazard statement:

Flammable liquid and vapour.

May cause organic solvent poisoning.

May be harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause damage to or gans.

Suspected of causing cancer.

May damage fertility or the unborn child

Causes damage to organs Central nervous system.

May cause respiratory irritation.

May cause drowsiness and dizziness.

Causes damage to organs Liver , Blood system , respiratory organs , Nervous system through prolonged or repeated exposure.

Fatal toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

Keep away from heat/sparks/open flames/hotsurfaces. - No smoking.

Ground/bond container and receiving equipment - if the explosive is electrostatically sensitive.

Use explosion-proof electrical/ventilating/lighting Equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wear protection gloves, protection glasses, protection side, protection clothes.

Wash thoroughly after handling.

Wear protective gloves as specified by the manufacturer/supplier or the competent authority.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use personal protective equipment as required.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment-if this is not the intended use.

In case of inadequate ventilation wear respiratory protection as specified by the manufacturer/supplier or the competent authority.

Contaminated work clothing should not be allowed out of the workplace.

Keep container tightly closed.

First aid measures:

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire, use Carbon dioxide gas, foam , dry powder.

IF ON SKIN: Gently wash with plenty of soap and water.

If skin irritation occurs, seek medical advice/attention.

Take off contaminated clothing and wash before reuse.

If exposing it: Contact the doctor.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

Get medical attention/advice if you feel unwell.

IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists, get medical advice/attention.

Collect spillage.

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

If experiencing respiratory symptoms call a POISON CENTER or doctor/physician.

If skin irritation occurs, get medical advice/attention.

Wash contaminated clothing before reuse.

Storage:

Store in cool/well-ventilated place.

Store locked up.

Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulation.

3 . COMPOSITION / INFORMATION ON INGREDIENTS

Classification of the substance or mixture:A mixture.

Chemical or generic name:No information

Chemical characteristic (chemical formulas):No information

Poisonous and Deleterious Substances Control Act:No correspond

Component name:

Ingredient name	CAS no	Content (%)	Industrial Safety and Health Act	Poisonous and Deleterious Substances Control Act	Pollutant Release and Transfer Register Law
unsaturated polyester		50.0 ~ 60.0	-	-	
styrene	100-42-5	44		-	PRTR CLASS-1-240
silica	7631-86-9	0.1 ~ 1		-	
phthalic anhydride	85-44-9	0.1 ~ 1		-	

4 . FIRST AID MEASURES

Inhalation:

If inhaled vapour or gases and felt unwell, remove to fresh air and keep at rest in a position comfortable for breathing.

And call a doctor /physician if feels unwell.

If inhaled vapour or gases in large quantities, remove to fresh air and rest with keeping warm. And if breathing gets irregular or stops, perform artificial respiration. And do not let swallow vomit.

Consult a doctor/ physician immediately.

If experiencing respiratory symptoms, call a POISON CENTER or doctor/physician.

Skin contact:

Wipe off clinging substance with clean cloth quickly.

Wash off thoroughly with plenty of water and soap. Do not use solvent or paint thinner.

If any change of appearance is seen, or pain persists and feels unwell, consult a doctor/physician.

Take off immediately all contaminated clothing.

Eye contact:

Wash off with plenty of clean water immediately for 15 minutes or more. And remove contact lens, if present and easy to do.

And completely wash it including the underside of eyelid.

Consult a physician as soon as possible.

Call a POISON CENTER or doctor/physician immediately.

Ingestion:

If swallowed accidentally, rest and consult a doctor/physician immediately.

Do not let swallow vomit.

Avoid forcing to vomit without physician's instruction.

The protection of the person taking first aid measure.:

Wear proper protectors (safety goggles, respirator, gloves,etc.)

Ventilate

5 . FIRE-FIGHTING MEASURES

Extinguishing compositions:Carbon dioxide gas,foam , dry powder

Must not use extinguishing compositions:Water (stick water, high pressure water jet)

Special fire extinguishing method(protection of fire-fighting person):

Wear proper protectors (heat-resistant clothes,etc.)

Remove flammable matters immediately.

Use designated extinguishant.

If sealed container is exposed to high temperature, water to cool.

Fire-fight from windward.

6 . ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear proper protectors (safety goggles, respirator, gloves, apron,etc.)

Declare off-limits of the outskirts and do not bring it close anyone other than the person concerned and prevent a second disaster.

Remove ignition source, heat source and flammable matters immediately.

Prepare proper extinguisher for accidental fire.

Environmental precautions:

Take cautions not to cause influence on environment by discharge to river.

Methods and materials for containment and cleaning up:

Dispose of waste or clinging matter according to related regulation.

Recollect leakage in the container can be sealed and keep in safety place.

Recollect with tool of non-spark material.

Recollect with drysand,soil, or other non-flammable matter. If in large quantity, prevent from flowing out by banking.

7 . HANDLING AND STORAGE

Handling:

Handling technical measures:

Handle in good ventilated area.

Close container tightly with closer after use.

Take away from open flame, spark,heat-source

Use a non-spark type hand tool.

While working, wear antistatic working suits and shoes.

Wear proper protectors to prevent from contact on skin, mucous membrane, wearing clothes and eyes.

Wash hands and face well after handling, and avoid to bring polluted protectors in any place where person stays.

The person who had allergic symptom must not handle it.

Handling instructions:

As a measure against static electricity accident, ground equipment and use electric appliances of explosion proof type.

Storage:

Storage, technical measures:

Avoid a direct sunlight.

Keep in good ventilated place.

Keep away from open flame and heat source.

8 . EXPOSURE CONTROLS / PERSONAL PROTECTION

Taking measures for equipment:

Use explosion proof type equipment.

Install ventilation equipment to prevent concentrating of vapour.

Ground equipment for transferring, pumping and stirring of fluid.

Provide equipment devised so that heat or ignition source can not be placed in the neighborhood of handling place.

Consider so that the operator can not touch or expose to corrosive substance directly.

In door application, use either not to expose the operator directly, such as using automatic painting machines, or that keeps the operator from exposure, such as local exhaust ventilation equipment.

Management density / permission density:

Chemical substance name

Exposure limits pp

Exposure limits mg

Skin

m

/m3

styrene	20		
Chemical substance name	ACGIH_TWA ppm	ACGIH_TWA mg/m3	Skin
styrene	20	85	
phthalic anhydride	1		
Chemical substance name	IARC		
styrene	2B		

Protective equipment:**Respiratory protective equipment:**

Wear a gas mask for poisonous gases.

Wear a mask with supplying air in closed place.

Hand protective equipment:

Wear the glove that organic solvents or chemicals can not permeate through.

Eyes protective equipment:

Wear protective eyeglasses or goggles.

Skin and body protective equipment:

Wear suitable clothing that should be impervious to chemicals and to avoid direct contact of skin in handling.

Other information:

Wear electricity shoes on electrostatic painting.

9 . PHYSICAL AND CHEMICAL PROPERTIES**Appearance:**

Physical state:Liquid

Colour:No information

Odour:No information

pH:No information

Melting point/freezing point:No information

Initial boiling point and boiling range:145[]

Flash point:31[]

Auto-ignition temperature(ignition point):490[]

Flammability (solid, gas):No information

Upper/lower flammability or explosive limits:6.8[vol %] / 0.9[vol %]

Vapor pressure:667[Pa] (20[])

Vapour density:No information

Evaporation rate:No information

Specific gravity (relative density):No information

Solubility:

Solubility in water:No information

Dissolubility in water:No information

Solubility in solvent:No information

Dissolubility in solvent:No information

Partition coefficient:n-octanol/water:

styrene 2.95

Decomposition temperature:No information

1 0 . STABILITY AND REACTIVITY**Stability(possibility of hazardous reaction) :**

There is no dangerous reaction in the range of room temperature.

Product is considered stable.

Conditions to avoid:

Avoid high temperature.

Hazardous decomposition products:

Hazardous gases such as carbon monoxide may be generated.

1 1 . TOXICOLOGICAL INFORMATION**Acute toxicity:****styrene**

LD50(oral) rat = 5000mg/kg

LC50(vapour) rat = 2770ppm(4h)

phthalic anhydride

LD50(oral) rat = 1530mg/kg

LD50(dermal) rabbit > 3160mg/kg

Skin corrosion/irritation:

styrene Category 2

Serious eye damage /irritation:

styrene Category 2A

phthalic anhydride Category 2A

Respiratory sensitization:

phthalic anhydride Category 1

Sensitization -skin:

phthalic anhydride Category 1

Mutagenicity (germ cell mutagenicity):

styrene Category 2

Carcinogenicity:

styrene Category 2

Reproductive toxicity:

styrene Category 1B

Specific target organ / systemic toxicity - single exposure:

styrene Category 1

(Central nervous system)

Category 3

(Respiratory tract irritation, Narcotic effects)

phthalic anhydride Category 2

(Systemic toxicity)

Category 3

(Respiratory tract irritation)

Specific target organ / systemic toxicity - repeated exposure:

styrene Category 1

(Liver, Blood system, respiratory organs, Nervous system)

phthalic anhydride Category 1

(respiratory organs)

Aspiration hazard:

styrene Category 1

1 2 . ECOLOGICAL INFORMATION

Take care for spills or waste in handling because of its environmental impact. Especially take care for product or rinsing water not to flow into ground, river and drain directly.

Hazardous to the aquatic environment - Acute hazard:

styrene Category 1

Hazardous to the aquatic environment - Chronic hazard:

styrene Category 2

1 3 . DISPOSAL CONSIDERATIONS

Residual waste:

Let authorized industrial waste disposing agent to dispose of abolished paint, containers and others under agreement.

Dispose of abolished paint, materials and waste from incineration in accordance with regulation or laws of "Specified Hazardous Industrial Wastes" of Special Controlled Industrial Waste.

Must not dispose of waste water from washing container, machinery and etc. into the ground or drain without treatment.

Dispose of waste from waste water treatment, incineration and etc. in accordance with regulation or laws relating to disposal and cleaning of waste, or let special disposing agent to dispose.

Incinerate abolished paint absorbed to diatomaceous earth by small quantity in the open-type incinerator. Or incinerate them by spraying in the fire box. If it is apprehended that hazardous gases such as dioxins are generated, let authorized industrial waste disposing agent to dispose under agreement.

Let authorized industrial waste disposing agent to dispose of abolished paint and materials under agreement, because there are specified as Special Controlled Industrial waste(waste oil).

Polluted container and packing:

Let authorized industrial waste disposing agent to dispose of them under agreement.

Dispose of used container after removing contents completely.

1 4 . TRANSPORT INFORMATION

After confirming the state of container had no leakage, and load to prevent collapsing, fall and damage.

Obey the description of "Handling and Storage"

IMDG:3

UN number:1263

Packing group:III

Land transportation:

If falling under "Fire Service Act", "Industrial Safety and Health Act" or "Poisonous and Deleterious Substances Control Act", obey the transport method regulated in each law.

Marine transportation:

Obey the provisions of "Ship Safety Act"

Air transportation:

Obey the provisions of "Civil Aeronautics Act"

Indicator number:128

1 5 . REGULATORY INFORMATION

Fire and Disaster Management Act:

Dangerous, Category 4, petroleum-category 2, dangerous grades III.

Industrial Safety and Health Act:

Table 1-4 by Act of Parliament, Flammable material

Article 57-2, notifiable substances

Waste Management and Public Cleaning Act:

Pollutant Release and Transfer Register Law:

Class 1

1 6 . OTHER INFORMATION

Literatures:

"Raw Materials Database" edited by Japan Paint Manufacturers Association

"Materials Safety Data Sheet Guide (Mixture)" edited by Japan Paint Manufacturers Association

"Solvent Pocket Book" Ohmsha, Ltd.

The Handbook for Precautions and First Aids to Dangerous Goods.

International Chemical Safety Cards.

Other information:

This SDS is necessary to handle our manufacture property and gathered up the matter which must be paid attention briefly for normal handling.

However the content noted above is prepared based on information or data available at the present, the evaluation of hazardousness and harmfulness is not adequate necessary, so be careful in handling.

This SDS may be revised without notice by revising law or new knowledge.

This SDS is based on the standard of Japan Paint Manufacturers Association with Laws of Japan but not from local government, accord to relevant local laws as required when handling.