

Chemical Safety Data Sheet



Date of issue 30 March 2012

Version 2

Section 1. Product and company identification

Identification of the substance or mixture

Product name : SIGMADUR 540 BASE
Code : 00202726
Product use : Professional applications, Used by spraying.

Use of the substance/mixture : Coating.

Company/undertaking identification

Manufacturer : PPG Industrial Do Brasil - Tintas e Vernizes
Via Anhanguera KM 106, Bairro Sao Judas Tadeu - Sumare / SP

Emergency telephone number : 55 0800 - 111767 - Empresa SOS Cotec

General information : 5519 2103-6180 (Department Comercial) and 5519 2103-6017 (Portaria)

Section 2. Composition, information on ingredients

Substance/preparation : Preparation

| Ingredient name | CAS number | % | Classification |
|--|------------|-----------|--|
| titanium dioxide | 13463-67-7 | 20 - 25 | Not classified. |
| n-butyl acetate | 123-86-4 | 10 - 12.5 | R10 R66, R67 |
| xylene | 1330-20-7 | 7 - 10 | R10 Xn; R20/21 Xi; R38 |
| barium sulfate | 7727-43-7 | 5 - 7 | Not classified. |
| Solvent naphtha (petroleum), light arom. : Nota(s) P | 64742-95-6 | 5 - 7 | R10 Xn; R65 Xi; R37 R66, R67 N; R51/53 |
| dimethyl glutarate | 1119-40-0 | 3 - 5 | Not classified. |
| 2-methylpropan-1-ol | 78-83-1 | 3 - 5 | R10 Xi; R41, R37/38 R67 |
| 2-methoxy-1-methylethyl acetate | 108-65-6 | 2 - 3 | R10 |
| ethylbenzene | 100-41-4 | 1 - 2 | F; R11 Xn; R20 |
| dimethyl succinate | 106-65-0 | 1 - 2 | Not classified. |
| trizinc bis(orthophosphate) | 7779-90-0 | 0.5 - 1 | N; R50/53 |
| bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate | 41556-26-7 | 0.2 - 0.5 | R43 N; R50/53 |
| Naphtha (petroleum), hydrodesulfurized heavy : Nota(s) P | 64742-82-1 | 0.1 - 0.2 | R10 Xn; R65 R66, R67 N; R51/53 |
| methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 82919-37-7 | 0 - 0.1 | R43 N; R50/53 |
| See Section 16 for the full text of the R-phrases declared above. | | | |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Section 3 . Hazards identification

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

- Classification** : R10
R67
R52/53
- Physical/chemical hazards** : Flammable.
- Human health hazards** : Vapors may cause drowsiness and dizziness.
- Environmental hazards** : Harmful 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.

Section 4. First aid measures

- Inhalation** : Remove 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.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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

Section 5 . Fire-fighting measures

Extinguishing media

- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is harmful 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
sulfur oxides
metal oxide/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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Section 6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Section 6. Accidental release measures

- Environmental precautions** : Avoid dispersal of spilled 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). Water polluting material.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled 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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. 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 vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Do not store above the following temperature: 120F / 49C. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
- Packaging materials**
- Recommended** : Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.

Section 8 . Exposure controls/personal protection

Exposure limit values

Ingredient name

titanium dioxide

n-butyl acetate

xylene

barium sulfate

2-methylpropan-1-ol

Occupational exposure limits

ACGIH TLV (United States, 2/2010).

TWA: 10 mg/m³, 0 times per shift, 8 hour(s).

ACGIH TLV (United States, 2/2010).

STEL: 200 ppm, 0 times per shift, 15 minute(s).

TWA: 150 ppm, 0 times per shift, 8 hour(s).

Ministério do Trabalho e Emprego (Brazil, 11/2001).

LT: 340 mg/m³ 8 hour(s).

LT: 78 ppm 8 hour(s).

ACGIH TLV (United States, 2/2010).

TWA: 10 mg/m³, 0 times per shift, 8 hour(s).

Ministério do Trabalho e Emprego (Brazil, 11/2001).

Section 8 . Exposure controls/personal protection

ethylbenzene

LT: 115 mg/m³ 8 hour(s).

LT: 40 ppm 8 hour(s).

Ministério do Trabalho e Emprego (Brazil, 11/2001).LT: 340 mg/m³ 8 hour(s).

LT: 78 ppm 8 hour(s).

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.

Exposure controls

Occupational exposure controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

Respiratory protection : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. 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.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: foil, fluor rubber

Eye protection : Safety glasses with side shields.

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.

Environmental exposure controls : 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.

Section 9 . Physical and chemical properties

| | |
|----------------------------------|---|
| Physical state | : Liquid. |
| Color | : Various |
| Boiling point | : >37.78°C (>100°F) |
| Flash point | : Closed cup: 30°C (86°F) |
| Explosion limits | : Lower: 1.26% Upper: 8.66% |
| Vapor pressure | : Highest known value: 1.2 kPa (9 mm Hg) (at 20°C) (n-butyl acetate). Weighted average: 0.8 kPa (6 mm Hg) (at 20°C) |
| Specific gravity | : 1.29 |
| Solubility | : Insoluble in the following materials: cold water. |
| Vapor density | : Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate). Weighted average: 3.75 (Air = 1) |
| Auto-ignition temperature | : 315°C (599°F) |

Section 10. Stability and reactivity

- Stability** : Stable under recommended storage and handling conditions (see section 7).
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials strong acids strong alkalis
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Potential acute health effects

- Inhalation** : Vapors may cause drowsiness and dizziness.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : May cause skin irritation.
- Eye contact** : May cause eye irritation.

Potential chronic health effects

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo

Ingestion : No specific data.

Skin : No specific data.

Eyes : No specific data.

Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Inhalation of high concentrations of vapor may affect the central nervous system.

- Target organs** : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, mucous membranes, gastrointestinal tract, cardiovascular system, upper respiratory tract, skin, ears, eye, lens or cornea.

Section 12. Ecological information

- Environmental effects** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

| Product/ingredient name | Test | Result | Species | Exposure |
|-------------------------|------|--------|---------|----------|
|-------------------------|------|--------|---------|----------|

Other ecological information

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---------------------------------|--------------------|-----|-----------|
| n-butyl acetate | 1.78 | - | low |
| xylene | 3.16 | - | high |
| dimethyl glutarate | 0.62 | - | low |
| 2-methylpropan-1-ol | 0.76 | - | low |
| 2-methoxy-1-methylethyl acetate | 0.56 | - | low |
| ethylbenzene | 3.15 | - | high |
| dimethyl succinate | 0.35 | - | low |

- Other adverse effects** : No known significant effects or critical hazards.

Section 13. Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: **HANDLING AND STORAGE** and Section 8: **EXPOSURE CONTROLS/PERSONAL PROTECTION** for additional handling information and protection of employees. Section 6. **Accidental release measures**

Section 14. Transport information

| Regulation | UN number | Proper shipping name | Classes | PG* | Additional information |
|------------|-----------|----------------------|---------|-----|------------------------|
| UN | 1263 | PAINT | 3 | III | - |
| IMDG | 1263 | PAINT | 3 | III | - |
| IATA | 1263 | PAINT | 3 | III | - |

PG* : Packing group

Section 15. Regulatory information

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.

Risk phrases : R10- Flammable.
R67- Vapors may cause drowsiness and dizziness.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S23- Do not breathe vapor or spray.
S38- In case of insufficient ventilation, wear suitable respiratory equipment.

Section 16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Europe : R11- Highly flammable.
R10- Flammable.
R20- Harmful by inhalation.
R20/21- Harmful by inhalation and in contact with skin.
R65- Harmful: may cause lung damage if swallowed.
R41- Risk of serious damage to eyes.
R37- Irritating to respiratory system.
R38- Irritating to skin.
R37/38- Irritating to respiratory system and skin.
R43- May cause sensitization by skin contact.
R66- Repeated exposure may cause skin dryness or cracking.
R67- Vapors may cause drowsiness and dizziness.
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.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 16. Other information

Full text of classifications referred to in sections 2 and 3 - Europe : F - Highly flammable
Xn - Harmful
Xi - Irritant
N - Dangerous for the environment

History

Date of issue : 3/30/2012.
Version : 2
Organization that prepared the MSDS : EHS

✔ Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.