

Material Safety Data Sheet



Date of issue : 15 July 2013

Version : 16

1. Identification of the material and supplier

Names

Product code : 366-87684
Product name : SAPPHIRE BLUE
Supplier : PPG Industries Australia
Pty Limited (ABN 82 055 500 939)
Locked Bag 888
CLAYTON SOUTH Victoria 3169
Tel: (03) 9263 6000 Fax: (03) 9263 6970
Emergency telephone number : 1800 033111 (24hr)

Uses

Recommended use : Coating. Paint. Painting-related materials.
Industrial applications.

2. Hazards identification

Statement of hazardous/dangerous nature : HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Risk phrases : R11- Highly flammable.
R63- Possible risk of harm to the unborn child.
R20/21- Harmful by inhalation and in contact with skin.
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R38- Irritating to skin.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S36/37- Wear suitable protective clothing and gloves.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

3. Composition/information on ingredients

| Ingredient name | CAS number | Concentration |
|--|------------|---------------|
| toluene | 108-88-3 | 10 - 30 |
| xylene | 1330-20-7 | 10 - 30 |
| titanium dioxide | 13463-67-7 | 0 - 10 |
| 2-methylpropan-1-ol | 78-83-1 | 0 - 10 |
| ethylbenzene | 100-41-4 | 0 - 10 |
| trizinc bis(orthophosphate) | 7779-90-0 | 0 - 10 |
| 2-butoxyethanol | 111-76-2 | 0 - 10 |
| manganese ferrite black spinel | 68186-94-7 | 0 - 10 |
| Solvent naphtha (petroleum), light arom. | 64742-95-6 | 0 - 10 |
| copper | 7440-50-8 | 0 - 10 |
| Kerosine (petroleum) | 8008-20-6 | 0 - 10 |
| 2-ethylhexanoic acid, cobalt salt | 13586-82-8 | 0 - 10 |

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

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 the 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 recognised 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** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

Extinguishing media

- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
phosphorus oxides
metal oxide/oxides
- Special exposure hazards** : 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 toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Highly 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.
- 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.
- Hazchem code** : 3(Y)E

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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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). Water polluting material. May be harmful to the environment if released in large quantities.

6 . Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the 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). 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. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, 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

All users should refer to the product Technical Data Sheet (TDS) before use.

- 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. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing 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. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Occupational exposure limits

Ingredient name

Exposure limits

8. Exposure controls/personal protection

| | |
|-----------------------------------|--|
| toluene | <p>Safe Work Australia (Australia, 7/2012). Absorbed through skin. STEL: 574 mg/m³, 0 times per shift, 15 minutes. STEL: 150 ppm, 0 times per shift, 15 minutes. TWA: 191 mg/m³, 0 times per shift, 8 hours. TWA: 50 ppm, 0 times per shift, 8 hours.</p> |
| xylene | <p>Safe Work Australia (Australia, 7/2012). STEL: 655 mg/m³, 0 times per shift, 15 minutes. STEL: 150 ppm, 0 times per shift, 15 minutes. TWA: 350 mg/m³, 0 times per shift, 8 hours. TWA: 80 ppm, 0 times per shift, 8 hours.</p> |
| 2-methylpropan-1-ol | <p>Safe Work Australia (Australia, 7/2012). TWA: 152 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p> |
| ethylbenzene | <p>Safe Work Australia (Australia, 7/2012). STEL: 543 mg/m³, 0 times per shift, 15 minutes. STEL: 125 ppm, 0 times per shift, 15 minutes. TWA: 434 mg/m³, 0 times per shift, 8 hours. TWA: 100 ppm, 0 times per shift, 8 hours.</p> |
| 2-butoxyethanol | <p>Safe Work Australia (Australia, 7/2012). Absorbed through skin. STEL: 242 mg/m³, 0 times per shift, 15 minutes. STEL: 50 ppm, 0 times per shift, 15 minutes. TWA: 96.9 mg/m³, 0 times per shift, 8 hours. TWA: 20 ppm, 0 times per shift, 8 hours.</p> |
| Kerosine (petroleum) | <p>ACGIH TLV (United States, 3/2012). Absorbed through skin. TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.</p> |
| 2-ethylhexanoic acid, cobalt salt | <p>EH40/2005 WELs (United Kingdom (UK), 12/2011). Skin sensitiser. TWA: 0.1 mg/m³, (as Co) 8 hours.</p> |

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 appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Exposure controls

Engineering measures : 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, vapour 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.

Eyes : Safety glasses with side shields.

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

Recommended: butyl rubber

8 . Exposure controls/personal protection

- Respiratory** : 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.
- Skin** : 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- 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.

References: Eye protectors should conform to AS/NZS 1336 and AS/NZS 1337. Chemical-resistant gloves should conform to AS/NZS 2161.1. Respiratory protection should conform to AS/NZS 1715 and AS/NZS 1716. Occupational footwear should conform to AS/NZS 2210.

9 . Physical and chemical properties

- Physical state** : Liquid.
- Colour** : Blue.
- Odour** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Melting point** : Not available.
- Vapour pressure** : Not available.
- Relative density** : 1.08
- Flash point** : Closed cup: 4°C (39.2°F)
- Flammable limits** : Not available.
- Vapour density** : Not available.
- pH** : Not available.
- Auto-ignition temperature** : Not available.
- Solubility** : Not available.

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 pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid release to the environment. Refer to special instructions/safety data sheet.
- 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.

11 . Toxicological information

Potential acute health effects

- Inhalation** : Harmful by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : Irritating to mouth, throat and stomach.
- Skin contact** : Harmful in contact with skin. Irritating to skin.
- Eye contact** : May cause eye irritation.

Potential chronic health effects

Product/ingredient name Carcinogenic effects Mutagenic effects Developmental toxicity Impairs fertility
toluene Repr. Cat. 3; R63

Over-exposure signs/symptoms

Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Inhalation of high concentrations of vapour 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, the reproductive system, liver, mucous membranes, heart, lymphatic system, gastrointestinal tract, upper respiratory tract, skin, ears, eye, lens or cornea.

12 . Ecological information

- Environmental effects** : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Water polluting material. May be harmful to the environment if released in large quantities.

Other ecological information

Persistence/degradability

- Conclusion/Summary** : Not available.

| <u>Product/ingredient name</u> | <u>Aquatic half-life</u> | <u>Photolysis</u> | <u>Biodegradability</u> |
|--------------------------------|--------------------------|-------------------|-------------------------|
| xylene | - | - | Readily |
| ethylbenzene | - | - | Readily |

| <u>Product/ingredient name</u> | <u>LogP_{ow}</u> | <u>BCF</u> | <u>Potential</u> |
|--------------------------------|--------------------------|-------------|------------------|
| toluene | 2.73 | 8.32 | low |
| xylene | 3.16 | 7.4 to 18.5 | low |
| 2-methylpropan-1-ol | 0.76 | - | low |
| ethylbenzene | 3.15 | 79.43 | low |
| 2-butoxyethanol | 0.83 | - | low |

- Mobility** : Not available.
- Other adverse effects** : No known significant effects or critical hazards.
Do not allow to enter drains or watercourses.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimised wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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 spilt 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

14 . Transport information

| Regulation | UN number | Proper shipping name | Classes | PG* | Additional information |
|------------|-----------|--|---------|-----|---|
| ADG | 1263 | PAINT | 3 | II | Hazchem code 3(Y)E |
| ADR | 1263 | PAINT | 3 | II | Special provisions 640 (C) Tunnel code (D/E) |
| IMDG | 1263 | PAINT. Marine pollutant (trizinc bis (orthophosphate)) | 3 | II | - |
| IATA | 1263 | PAINT | 3 | II | - |

PG* : Packing group

15 . Regulatory information

Standard Uniform Schedule of Medicine and Poisons

SUSMP : None.

Control of Scheduled Carcinogenic Substances

Ingredient name

No listed substance

Schedule

Australia inventory (AICS) : All components are listed or exempted.

16 . Other information

Date of issue : 15 July 2013

Organisation 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.