Safety Data Sheet

Date of issue 28 October 2026
Version 2.04

Section 1. Product and company identification

Product name : SIGMASHIELD 680 BASE REDBROWN
Product code : 000001204044
Other means of identification : 00479979
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Coating. Paints. Painting-related materials.

Uses advised against	**Reason**
Not applicable.	

Supplier's details:

Supplier : PPG Industrial do Brasil – Tintas e Vernizes Ltda
Via Anhanguera KM 106, Bairro Sao Judas Tadeu
Sumare / SP, Brasil
55 19 2103-6000 (Recepção e Portaria)

Email address: : fds@ppg.com

Emergency telephone number : 0800 707 1767 / 0800 707 7022 – Empresa Ambipar response (24hs)
0800 014 8110 / (011)2661-8571 – CEATOX - Centro de Assistência Toxicológica (atendimento 24hs)

Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (dermal) - Category 5
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
AQUATIC HAZARD (ACUTE) - Category 3
AQUATIC HAZARD (LONG-TERM) - Category 3

Section 2. Hazards identification

Target organs : Contains material which causes damage to the following organs: liver, spleen, brain, bone marrow, central nervous system (CNS), eye, lens or cornea.
Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, heart, cardiovascular system, upper respiratory tract, immune system, skin, ears.

Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 53%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 61.3%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 64.3%

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Flammable liquid and vapor.
May be harmful in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
May cause cancer.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Do not breathe vapor. Wash thoroughly after handling.

Response : IF exposed or concerned: Get medical advice or attention. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. 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 or attention.

Storage : Store in a well-ventilated place. Keep container tightly closed.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C (140F).

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : 00479979

Ingredient name	%	CAS number/other identifiers	Classification
Talc , not containing asbestiform fibres	≥20 - ≤30	14807-96-6	CARCINOGENICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Epoxy Resin (700<MW<=1100)	≥10 - ≤20	25036-25-3	ACUTE TOXICITY (oral) - Category 5 ACUTE TOXICITY (dermal) - Category 5 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1B
crystalline silica, non-respirable powder (>10 microns)	≥10 - ≤20	14808-60-7	CARCINOGENICITY - Category 1A
xylene	≥10 - ≤17	1330-20-7	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 5 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 3
diiron trioxide	≥5 - ≤10	1309-37-1	Not classified as hazardous according to ABNT NBR 14725
Aluminium powder (stabilized)	≥3 - ≤5	7429-90-5	FLAMMABLE SOLIDS - Category 1 SUBSTANCES AND MIXTURES, WHICH IN CONTACT WITH WATER, EMIT FLAMMABLE GASES - Category 2
Solvent naphtha (petroleum), heavy arom.	≥3 - ≤5	64742-94-5	FLAMMABLE LIQUIDS - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (LONG-TERM) -

Section 3. Composition/information on ingredients

			Category 2
ethylbenzene	≥1 - ≤3	100-41-4	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 5 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (ACUTE) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 3
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	≥1 - ≤3	64742-48-9	FLAMMABLE LIQUIDS - Category 4 ASPIRATION HAZARD - Category 1
2-methylpropan-1-ol	≥0.3 - ≤2.4	78-83-1	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 5 ACUTE TOXICITY (dermal) - Category 5 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 2
1-methoxy-2-propanol	≥1 - ≤3	107-98-2	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Phenol, styrenated	≥0.1 - ≤2.2	61788-44-1	ACUTE TOXICITY (oral) - Category 5 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1B AQUATIC HAZARD (ACUTE) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 2
crystalline silica, respirable powder (<10 microns)	≥1 - ≤3	14808-60-7	CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
Urea, polymer with formaldehyde,	≥1 - ≤3	68002-18-6	AQUATIC HAZARD (LONG-TERM) -

Section 3. Composition/information on ingredients

isobutylated			Category 4
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	<1	911674-82-3	SKIN SENSITIZATION - Category 1B
naphthalene	<1	91-20-3	FLAMMABLE SOLIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1

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.

SUB codes represent substances without registered CAS Numbers.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

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.

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.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

Specific treatments : The exposed person may need to be kept under medical surveillance for 48 hours. No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation.

Skin contact : May be harmful in contact with skin. Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
metal oxide/oxides
Formaldehyde.

Special protective actions for fire-fighters : 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.

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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : 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. Do not breathe vapor. Put on appropriate personal protective equipment. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

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.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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). 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.

Section 7. Handling and storage

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. 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 only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : 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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 0 to 35°C (32 to 95°F). 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. Store locked up. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Talc , not containing asbestiform fibres	**ACGIH TLV (United States, 1/2026)** TWA 8 hours: 2 mg/m³. Form: Respirable fraction.
crystalline silica, non-respirable powder (>10 microns)	**ACGIH TLV (United States, 1/2026) [Silica, crystalline]** TWA 8 hours: 0.025 mg/m³. Form: Respirable fraction.
xylene	**Ministry of Labor and Employment (Brazil, 11/2001) [Xylenes (o-, m-, p- isomers)]** TWA 8 hours: 78 ppm. TWA 8 hours: 340 mg/m³.
diiron trioxide	**ACGIH TLV (United States, 1/2026)** TWA 8 hours: 5 mg/m³. Form: Respirable fraction.
Aluminium powder (stabilized)	**ACGIH TLV (United States, 1/2026) [Aluminum, metal and insoluble compounds]** TWA 8 hours: 1 mg/m³. Form: Respirable fraction.
ethylbenzene	**Ministry of Labor and Employment (Brazil, 11/2001)** TWA 8 hours: 78 ppm. TWA 8 hours: 340 mg/m³.
2-methylpropan-1-ol	**Ministry of Labor and Employment (Brazil, 11/2001)** TWA 8 hours: 40 ppm. TWA 8 hours: 115 mg/m³.
1-methoxy-2-propanol	**ACGIH TLV (United States, 1/2026)** TWA 8 hours: 50 ppm. TWA 8 hours: 184 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 369 mg/m³.
crystalline silica, respirable powder (<10 microns)	**ACGIH TLV (United States, 1/2026) [Silica, crystalline]** TWA 8 hours: 0.025 mg/m³. Form: Respirable fraction.
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	**ACGIH TLV (United States)** TWA: 3 mg/m³ (Respirable fraction). TWA: 10 mg/m³ (Total dust).
naphthalene	**ACGIH TLV (United States, 1/2026)** Absorbed through skin. TWA 8 hours: 10 ppm. TWA 8 hours: 52 mg/m³.

Appropriate engineering 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.

Section 8. Exposure controls/personal protection

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.

Individual protection measures

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye protection : Chemical splash goggles.

Skin protection

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body 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. 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.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : 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. 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.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Brownish-red.

Odor : Aromatic. [Slight]

pH : Not applicable.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 30°C (86°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.48

Solubility(ies) :

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): >400 mm^2/s (>400 cSt)
Kinematic (40°C (104°F)): >21 mm^2/s (>21 cSt)

Viscosity : > 100 s (ISO 6mm)

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides Formaldehyde. metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Harmful if inhaled.
May be harmful in contact with skin.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Dose
Talc , not containing asbestiform fibres	Not available	Not available
Epoxy Resin (700<MW<=1100)	Rat - Oral - LD50	>2000 mg/kg
	Rat - Dermal - LD50	>2000 mg/kg
crystalline silica, non-respirable powder (>10 microns)	Not available	Not available
xylene	Rat - Oral - LD50	4.3 g/kg
	Rabbit - Dermal - LD50	1.7 g/kg
diiron trioxide	Rat - Oral - LD50	10 g/kg
	Rat - Inhalation - LC50 Dusts and mists	>5 mg/l [4 hours]
Aluminium powder (stabilized)	Rat - Oral - LD50	>15900 mg/kg
	Rat - Inhalation - LC50 Dusts and mists	>5 mg/l [4 hours]
Solvent naphtha (petroleum), heavy arom.	Rat - Oral - LD50	>5 g/kg
	Rat - Inhalation - LC50 Dusts and mists	>5.2 mg/l [4 hours]
ethylbenzene	Rat - Oral - LD50	3.5 g/kg
	Rabbit - Dermal - LD50	17.8 g/kg
	Rat - Inhalation - LC50 Vapor	17.8 mg/l [4 hours]
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Rat - Oral - LD50	>6 g/kg
	Rabbit - Dermal - LD50	>5000 mg/kg
2-methylpropan-1-ol	Rat - Oral - LD50	2830 mg/kg
	Rabbit - Dermal - LD50	2460 mg/kg
	Rat - Inhalation - LC50 Vapor	24.6 mg/l [4 hours]
1-methoxy-2-propanol	Rabbit - Dermal - LD50	13 g/kg
	Rat - Oral - LD50	5.2 g/kg
	Rat - Inhalation - LC50 Vapor	>7000 ppm [6 hours]
Phenol, styrenated	Rabbit - Dermal - LD50	>5010 mg/kg
	Rat - Oral - LD50	3550 mg/kg
crystalline silica, respirable powder (<10 microns)	Not available	Not available
Urea, polymer with formaldehyde, isobutylated	Rabbit - Dermal - LD50	>5 g/kg
	Rat - Oral - LD50	>5 g/kg
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Rat - Inhalation - LC50 Dusts and mists	>5.08 mg/l [4 hours]
naphthalene	Rat - Oral - LD50	490 mg/kg
	Rabbit - Dermal - LD50	>20 g/kg

Conclusion/Summary : Harmful if inhaled.
May be harmful in contact with skin.

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Species	Dose	Score
Talc , not containing asbestiform fibres	Not available	Not available	Not available
Epoxy Resin (700<MW <=1100)	Not available	Not available	Not available
crystalline silica, non-respirable powder (>10 microns)	Not available	Not available	Not available
xylene	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 500 mg Duration of treatment/exposure: 24 hours	-
diiron trioxide	Not available	Not available	Not available
Aluminium powder (stabilized)	Not available	Not available	Not available
Solvent naphtha (petroleum), heavy arom.	Not available	Not available	Not available
ethylbenzene	Not available	Not available	Not available
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Not available	Not available	Not available
2-methylpropan-1-ol	Not available	Not available	Not available
1-methoxy-2-propanol	Not available	Not available	Not available
Phenol, styrenated	Not available	Not available	Not available
crystalline silica, respirable powder (<10 microns)	Not available	Not available	Not available
Urea, polymer with formaldehyde, isobutylated	Not available	Not available	Not available
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Not available	Not available	Not available
naphthalene	Not available	Not available	Not available

Conclusion/Summary

Skin : Causes skin irritation.

Eyes : Causes serious eye irritation.

Respiratory : Based on available data, the classification criteria are not met.

Sensitization

Product/ingredient name	Species	Result
Talc , not containing asbestiform fibres	Not available	Not available
Epoxy Resin (700<MW<=1100)	Not available	Not available
crystalline silica, non-respirable powder (>10 microns)	Not available	Not available
xylene	Not available	Not available
diiron trioxide	Not available	Not available
Aluminium powder (stabilized)	Not available	Not available
Solvent naphtha (petroleum), heavy arom.	Not available	Not available
ethylbenzene	Not available	Not available
Hydrocarbons, C10-C13, n-alkanes,	Not available	Not available

Section 11. Toxicological information

isoalkanes, cyclics, < 2% aromatics		
2-methylpropan-1-ol	Not available	Not available
1-methoxy-2-propanol	Not available	Not available
Phenol, styrenated	Mouse - skin OECD 429	Sensitizing
crystalline silica, respirable powder (<10 microns)	Not available	Not available
Urea, polymer with formaldehyde, isobutylated	Not available	Not available
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Not available	Not available
naphthalene	Not available	Not available

Conclusion/Summary

Skin : May cause an allergic skin reaction.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Product/ingredient name	Species	Result
Talc , not containing asbestiform fibres	Not available	Not available
Epoxy Resin (700<MW<=1100)	Not available	Not available
crystalline silica, non-respirable powder (>10 microns)	Not available	Not available
xylene	Not available	Not available
diiron trioxide	Not available	Not available
Aluminium powder (stabilized)	Not available	Not available
Solvent naphtha (petroleum), heavy arom.	Not available	Not available
ethylbenzene	Not available	Not available
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Not available	Not available
2-methylpropan-1-ol	Not available	Not available
1-methoxy-2-propanol	Not available	Not available
Phenol, styrenated	Not available	Not available
crystalline silica, respirable powder (<10 microns)	Not available	Not available
Urea, polymer with formaldehyde, isobutylated	Not available	Not available
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Not available	Not available
naphthalene	Not available	Not available

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Section 11. Toxicological information

Product/ingredient name	Species	Result
Talc , not containing asbestiform fibres	Not available	Not available
Epoxy Resin (700<MW<=1100)	Not available	Not available
crystalline silica, non-respirable powder (>10 microns)	Not available	Not available
xylene	Not available	Not available
diiron trioxide	Not available	Not available
Aluminium powder (stabilized)	Not available	Not available
Solvent naphtha (petroleum), heavy arom.	Not available	Not available
ethylbenzene	Not available	Not available
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Not available	Not available
2-methylpropan-1-ol	Not available	Not available
1-methoxy-2-propanol	Not available	Not available
Phenol, styrenated	Not available	Not available
crystalline silica, respirable powder (<10 microns)	Not available	Not available
Urea, polymer with formaldehyde, isobutylated	Not available	Not available
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Not available	Not available
naphthalene	Not available	Not available

Conclusion/Summary : May cause cancer.

Classification

Product/ingredient name	OSHA	IARC	NTP
Talc , not containing asbestiform fibres	-	2A	-
crystalline silica, non-respirable powder (>10 microns)	+	1	Known to be a human carcinogen.
xylene	-	3	-
diiron trioxide	-	3	-
ethylbenzene	-	2B	-
crystalline silica, respirable powder (<10 microns)	+	1	Known to be a human carcinogen.
naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.
toluene	-	3	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Product/ingredient name

Section 11. Toxicological information

	Species	Result
Talc , not containing asbestiform fibres	Not available	Not available
Epoxy Resin (700<MW<=1100)	Not available	Not available
crystalline silica, non-respirable powder (>10 microns)	Not available	Not available
xylene	Not available	Not available
diiron trioxide	Not available	Not available
Aluminium powder (stabilized)	Not available	Not available
Solvent naphtha (petroleum), heavy arom.	Not available	Not available
ethylbenzene	Not available	Not available
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Not available	Not available
2-methylpropan-1-ol	Not available	Not available
1-methoxy-2-propanol	Not available	Not available
Phenol, styrenated	Not available	Not available
crystalline silica, respirable powder (<10 microns)	Not available	Not available
Urea, polymer with formaldehyde, isobutylated	Not available	Not available
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Not available	Not available
naphthalene	Not available	Not available

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Talc , not containing asbestiform fibres	Category 3	-	Respiratory tract irritation
Epoxy Resin (700<MW<=1100)	None.	None.	None.
crystalline silica, non-respirable powder (>10 microns)	None.	None.	None.
xylene	Category 3	-	Respiratory tract irritation
diiron trioxide	None.	None.	None.
Aluminium powder (stabilized)	None.	None.	None.
Solvent naphtha (petroleum), heavy arom.	Category 3	-	Narcotic effects
ethylbenzene	None.	None.	None.
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	None.	None.	None.
2-methylpropan-1-ol	Category 3	-	Respiratory tract irritation
-	Category 3	-	Narcotic effects
1-methoxy-2-propanol	Category 3	-	Narcotic effects
Phenol, styrenated	None.	None.	None.
crystalline silica, respirable powder (<10 microns)	None.	None.	None.
Urea, polymer with formaldehyde, isobutylated	None.	None.	None.
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	None.	None.	None.
naphthalene	None.	None.	None.

Section 11. Toxicological information

Conclusion/Summary : May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Talc , not containing asbestiform fibres	None.	None.	None.
Epoxy Resin (700<MW<=1100)	None.	None.	None.
crystalline silica, non-respirable powder (>10 microns)	None.	None.	None.
xylene	None.	None.	None.
diiron trioxide	None.	None.	None.
Aluminium powder (stabilized)	None.	None.	None.
Solvent naphtha (petroleum), heavy arom.	None.	None.	None.
ethylbenzene	Category 2	-	hearing organs
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	None.	None.	None.
2-methylpropan-1-ol	None.	None.	None.
1-methoxy-2-propanol	None.	None.	None.
Phenol, styrenated	None.	None.	None.
crystalline silica, respirable powder (<10 microns)	Category 1	inhalation	-
Urea, polymer with formaldehyde, isobutylated	None.	None.	None.
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	None.	None.	None.
naphthalene	Category 2	-	-

Conclusion/Summary : May cause damage to organs through prolonged or repeated exposure.

Target organs : Contains material which causes damage to the following organs: liver, spleen, brain, bone marrow, central nervous system (CNS), eye, lens or cornea.
Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, heart, cardiovascular system, upper respiratory tract, immune system, skin, ears.

Aspiration hazard

Name	Result
Talc , not containing asbestiform fibres	None.
Epoxy Resin (700<MW<=1100)	None.
crystalline silica, non-respirable powder (>10 microns)	None.
xylene	ASPIRATION HAZARD - Category 1
xylene	None.
diiron trioxide	None.
Aluminium powder (stabilized)	None.
Solvent naphtha (petroleum), heavy arom.	ASPIRATION HAZARD - Category 1
Solvent naphtha (petroleum), heavy arom.	None.
ethylbenzene	ASPIRATION HAZARD - Category 1
ethylbenzene	None.
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	ASPIRATION HAZARD - Category 1
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	None.
2-methylpropan-1-ol	ASPIRATION HAZARD - Category 2
2-methylpropan-1-ol	None.
1-methoxy-2-propanol	None.

Section 11. Toxicological information

Phenol, styrenated	None.
crystalline silica, respirable powder (<10 microns)	None.
Urea, polymer with formaldehyde, isobutylated	None.
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	None.
naphthalene	None.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation.

Skin contact : May be harmful in contact with skin. Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. This product either contains formaldehyde or is capable of releasing formaldehyde above 0.5 ppm under certain conditions. Formaldehyde is a known cancer hazard, a skin sensitizer and a respiratory sensitizer. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This

Section 11. Toxicological information

takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

Product/ingredient name	Result
Talc , not containing asbestiform fibres	Not available
Epoxy Resin (700<MW<=1100)	Not available
crystalline silica, non-respirable powder (>10 microns)	Not available
xylene	Not available
diiron trioxide	Not available
Aluminium powder (stabilized)	Not available
Solvent naphtha (petroleum), heavy arom.	Not available
ethylbenzene	Not available
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Not available
2-methylpropan-1-ol	Not available
1-methoxy-2-propanol	Not available
Phenol, styrenated	Not available
crystalline silica, respirable powder (<10 microns)	Not available
Urea, polymer with formaldehyde, isobutylated	Not available
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Not available
naphthalene	Not available

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

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Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SIGMASHIELD 680 BASE REDBROWN	6708.1	2926.0	Not available	29.5	3.8
Talc , not containing asbestiform fibres	Not available	Not available	Not available	Not available	Not available
Epoxy Resin (700<MW<=1100)	2500	2500	Not available	Not available	Not available
crystalline silica, non-respirable powder (>10 microns)	Not available	Not available	Not available	Not available	Not available
xylene	4300	1700	Not available	11	1.5
diiron trioxide	10000	Not available	Not available	Not available	Not available
Aluminium powder (stabilized)	Not available	Not available	Not available	Not available	Not available
Solvent naphtha (petroleum), heavy arom.	Not available	Not available	Not available	Not available	Not available
ethylbenzene	3500	17800	Not available	17.8	1.5
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Not available	Not available	Not available	Not available	Not available
2-methylpropan-1-ol	2830	2460	Not available	24.6	Not available
1-methoxy-2-propanol	5200	13000	Not available	Not available	Not available
Phenol, styrenated	3550	Not available	Not available	Not available	Not available
crystalline silica, respirable powder (<10 microns)	Not available	Not available	Not available	Not available	Not available
Urea, polymer with formaldehyde, isobutylated	Not available	Not available	Not available	Not available	Not available
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Not available	Not available	Not available	Not available	Not available
naphthalene	490	Not available	Not available	Not available	Not available

Other information : Not available.

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Dose / Exposure
diiron trioxide	Acute - EC50	Daphnia	>100 mg/l [48 hours]
Solvent naphtha (petroleum), heavy arom.	NOEL - Fresh water	Daphnia	0.48 mg/l [21 days]
ethylbenzene	Acute - EC50 - Fresh water	Daphnia	1.8 mg/l [48 hours]
	Chronic - NOEC - Fresh water	Daphnia - *Ceriodaphnia dubia*	1 mg/l
2-methylpropan-1-ol	Acute - EC50	Daphnia	1100 mg/l [48 hours]
1-methoxy-2-propanol	Acute - LC50 - Fresh water	Fish - Goldfish	>4500 mg/l [96 hours]
	Acute - LC50	Daphnia - Daphnia	23300 mg/l [48 hours]
Phenol, styrenated	Acute - EC50	Daphnia	3.8 mg/l [48 hours]
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Acute - LC50	Fish	>100 mg/l [96 hours]

Conclusion/Summary : Not available.

Persistence/degradability

Product/ingredient name	Test	Result	Dose / Inoculum
ethylbenzene	-	79% [10 days] - Readily	-
Phenol, styrenated	OECD 301F	7% [28 days] - Not readily	-

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
ethylbenzene	-	-	Readily
Phenol, styrenated	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Talc , not containing asbestiform fibres	None.	None.	None.
Epoxy Resin (700<MW <=1100)	None.	None.	None.
crystalline silica, non-respirable powder (>10 microns)	None.	None.	None.
xylene	3.12	7.4 to 18.5	Low
diiron trioxide	None.	None.	None.
Aluminium powder (stabilized)	None.	None.	None.
Solvent naphtha (petroleum), heavy arom.	2.8 to 6.5	None.	High
ethylbenzene	3.6	79.43	Low
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics,	None.	None.	None.

Section 12. Ecological information

< 2% aromatics			
2-methylpropan-1-ol	1	None.	Low
1-methoxy-2-propanol	<1	None.	Low
Phenol, styrenated	None.	None.	None.
crystalline silica, respirable powder (<10 microns)	None.	None.	None.
Urea, polymer with formaldehyde, isobutylated	None.	None.	None.
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	None.	None.	None.
naphthalene	3.4	85.11 [OECD 305]	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	Brazil (ANTT)	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3
Packing group	III	III	III

Section 14. Transport information

Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

Brazil : None identified.

Risk number : 30

IMDG : This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

References : ABNT NBR 14725: 2023 (April 2025)

Section 16. Other information

History

Date of previous issue : **2/3/2026**

Version : **2.04**

Prepared by : EHS

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

Section 16. Other information

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.