

SAFETY DATA SHEET



Date of issue/Date of revision 9 September 2026

Version 1.07

Section 1. Chemical identification and supplier information

Product code : 000010024373
Product name : STEELGUARD 651 WHITE
CAS number : Mixture
EC number : Mixture.
Other means of identification
00445093; 00478272 ; 445093
Product type : Liquid.

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

Product use : Coating.
Professional applications, Used by spraying.
Uses advised against : Product is not intended, labelled or packaged for consumer use.
Supplier's details : PPG Yungchi Coatings Co. Ltd
No. 176, Road 6, Ho Nai IZ, Phuoc Tan Ward,
Dong Nai City, Vietnam
Tel : +84 61 3936121/22
Emergency telephone number (with hours of operation) : CHEMTREC +(84)-444581938 (CCN 17704)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 19.5%

GHS label elements

Hazard pictograms :



Signal word : Warning
Hazard statements : Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection.
Response : IF exposed or concerned: Get medical advice or attention.

Section 2. Hazards identification

Storage : Store locked up.

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

Routes of entry : Not available.

Other hazards which do not result in classification : Contains isothiazolinones. May cause allergic reaction.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Mixture

EC number : Mixture.

Ingredient name	CAS number	Chemical formula	%
Polyphosphoric acids, ammonium salts	68333-79-9	-	≥25 - ≤50
titanium dioxide	13463-67-7	O2-Ti	≥10 - ≤25
pentaerythritol	115-77-5	C5H12O4	≤10
melamine	108-78-1	C3H6N6	<10
isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol	25265-77-4	C12-H24-O3	≤3
aluminium hydroxide	21645-51-2	-	≤1
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	-	≤0.3
9(or 10)-sulphooctadecanoic acid, potassium salt	67968-63-2	C18H34K2O5S	<0.3
propylidynetrimethanol	77-99-6	C6H14O3	≤0.3
titanium dioxide (<10 microns)	13463-67-7	O2-Ti	≤0.3

There are no 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.

SUB codes represent substances without registered CAS Numbers.

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

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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Section 4. First aid measures

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

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

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.

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. Put on appropriate personal protective equipment.
- 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).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. 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. 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

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. 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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 5 to 35°C (41 to 95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. 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

Ingredient name	Exposure limits
titanium dioxide	Ministry of Health (Viet Nam, 4/2025) TWA 8 hours: 4 mg/m ³ . Form: total dust concentration. TWA 8 hours: 2 mg/m ³ . Form: respirable dust.
pentaerythritol	ACGIH TLV (United States, 1/2025) TWA 8 hours: 10 mg/m ³ .
aluminium hydroxide	Ministry of Health (Viet Nam, 4/2025) [aluminum and compounds] TWA 8 hours: 2 mg/m ³ .
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Ministry of Health (Viet Nam, 4/2025) [mineral oil] TWA 8 hours: 5 mg/m ³ . Form: Mist. STEL 15 minutes: 10 mg/m ³ . Form: Mist.
propylidynetrimethanol	ACGIH TLV (United States, 1/2025) TWA 8 hours: 0.5 ppm. Form: Inhalable fraction and vapor.
titanium dioxide (<10 microns)	Ministry of Health (Viet Nam, 4/2025) TWA 8 hours: 4 mg/m ³ . Form: total dust concentration. TWA 8 hours: 2 mg/m ³ . Form: respirable dust.

Recommended monitoring procedures : 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.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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

Section 8. Exposure controls/personal protection

- 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.
- Eye/face protection** : Safety glasses with side shields.
- 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.
- 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.
- 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** : Not available.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.42
- Bulk Density (g/cm³)** : 1.42

	Media	Result
Solubility(ies)	cold water	Partially soluble

Section 9. Physical and chemical properties

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): Not available. Kinematic (40°C): >21 mm ² /s

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 metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Polyphosphoric acids, ammonium salts titanium dioxide	LD50 Oral	Rat	4.74 g/kg	-
	LC50 Inhalation Dusts and mists	Rat	>6.82 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
pentaerythritol melamine	LD50 Oral	Rat	18500 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5190 mg/m ³	4 hours
	LD50 Oral	Rat	3161 mg/kg	-
isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol	LD50 Dermal	Rabbit	>15.2 g/kg	-
	LD50 Oral	Rat	6.5 g/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.09 mg/l	4 hours
aluminium hydroxide	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit	10 g/kg	-
	LD50 Oral	Rat	14000 mg/kg	-
titanium dioxide (<10 microns)	LC50 Inhalation Dusts and mists	Rat	>6.82 mg/l	4 hours

Section 11. Toxicological information

	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
melamine	Category 2	-	urinary system

Aspiration hazard

Name	Result
Distillates (petroleum), solvent-dewaxed heavy paraffinic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Section 11. Toxicological information

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

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

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	11358.22 mg/kg

Other information :

Contains isothiazolinones. May cause allergic reaction.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Polyphosphoric acids, ammonium salts titanium dioxide melamine isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol propylidynetrimethanol titanium dioxide (<10 microns)	Acute EC50 730.5 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 >100 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute EC50 200 mg/l	Daphnia	48 hours
	Acute LC50 33 mg/l	Fish	96 hours
	Acute LC50 >1000 mg/l	Fish	96 hours
	Acute LC50 >100 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

Section 12. Ecological information

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol	OECD 301B	>76 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
pentaerythritol	-1.7	1.26	Low
melamine	-1.22	3.8	Low
isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol	3.2	-	Low
propylidynetrimethanol	-0.47	-	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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-

Section 14. Transport information

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

Additional information
UN : 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

Safety, health and environmental regulations specific for the product

:

- Law on Chemicals No. 69/2025/QH15;
- Decree No. 24/2026/NĐ-CP regulating the lists of chemicals under the scope of the Law on Chemicals;
- Decree No. 25/2026/NĐ-CP detailing and providing measures for organizing and guiding the implementation of certain provisions of the Law on Chemicals related to the development of a safe chemical industry and chemical security;
- Decree No. 26/2026/NĐ-CP detailing and guiding the implementation of certain provisions of the Law on Chemicals related to the management of chemical activities and hazardous chemicals in products and goods;
- Decree No. 28/2026/NĐ-CP dated January 19, 2026: Promulgating lists of narcotic substances and precursors;
- Circular No. 01/2026/TT-BCT detailing and guiding the implementation of certain provisions of the Law on Chemicals and Decree No. 26/2026/NĐ-CP of the Government on the management of chemical activities and hazardous chemicals in products and goods;
- Circular No. 02/2026/TT-BCT regulating several measures for implementing the Law on Chemicals and Decree No. 25/2026/NĐ-CP of the Government, which provides detailed regulations and measures for organizing and guiding the implementation of certain provisions of the Law on Chemicals related to the development of a safe chemical industry and chemical security;
- Decree No. 71/2019/NĐ-CP dated August 30, 2019: Regulations on administrative penalties in the field of chemicals and industrial explosives;
- National Technical Regulation QCVN 05A:2020/BCT on safety in production, trading, use, storage, and transportation of hazardous chemicals and other relevant legal regulations on conditional chemical sectors in industry;
- Circular No. 19/2024/TT-BCT of the Ministry of Industry and Trade: Issuing Amendment 1:2024 of QCVN 05A:2020/BCT – National technical regulation on safety in production, trading, use, storage, and transportation of hazardous chemicals;
- Decree No. 34/2024/NĐ-CP dated March 31, 2024: Regulations on the list of dangerous goods and transportation of dangerous goods by road motor vehicles and inland waterways;
- Decree No. 161/2024/NĐ-CP: Regulations on the list of dangerous goods, transportation of dangerous goods, procedures for licensing, and certification of training completion for drivers and transport operators of dangerous goods by road.

[International regulations](#)
[Montreal Protocol](#)

Section 15. Regulatory information

Not listed.

[Stockholm Convention on Persistent Organic Pollutants](#)

Not listed.

Section 16. Other information

[History](#)

Date of issue/Date of revision : 9 September 2026

Date of previous issue : 6/18/2026

Version : 1.07

Prepared by : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
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)
UN = United Nations

References : Not available.

📌 Indicates information that has changed from previously issued version.

[Notice to reader](#)

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.