SAFETY DATA SHEET



Date of issue/Date of revision 20 December 2023 Version12

Section 1. Identification

Product code : 00317272

Product name : SIGMATHERM 350 RAL 5012

CAS number : Not applicable.

EC number : Mixture.

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 Yung Chi Coatings Co. Ltd

Lot 219, Amata Street, Long Binh IZ Bien Hoa City, Dong Nai Province

Vietnam

Tel: +84 61 3936121/22

Emergency telephone number (with hours of

operation)

: CHEMTREC +(84)-444581938 (CCN 17704)

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

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

AQUATIC TOXICITY (ACUTE) - Category 3
AQUATIC TOXICITY (CHRONIC) - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown acute dermal

toxicity: 35%

Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation

toxicity: 43.8%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the

aquatic environment: 42.8%

GHS label elements

Hazard pictograms





Signal word : Warning

Viet Nam Page: 1/12

Product name SIGMATHERM 350 RAL 5012

Section 2. Hazards identification

Hazard statements

: Flammable liquid and vapor.

May be harmful in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

Harmful if inhaled.

May cause respiratory irritation.

Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

: 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. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Wash thoroughly after handling.

Response

: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. 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 Disposal : Store locked up. Store in a well-ventilated place. Keep container tightly closed.

: 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 : Prolonged or repeated contact may dry skin and cause irritation.

result in classification

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Not applicable. **EC** number : Mixture.

Ingredient name	CAS number	Chemical formula	%
K ylene	1330-20-7	C8-H10	≥25 - ≤44
ethylbenzene	100-41-4	C8-H10	≤9.4
barium sulfate	7727-43-7	O4-S.Ba	≤9.8
toluene	108-88-3	C7-H8	≤0.3
zinc bis(2-ethylhexanoate)	136-53-8	C8-H15-O2.1/2Zn	<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.

Viet Nam Page: 2/12

Date of issue 20 December 2023 Version 12

Product code 00317272

Product name SIGMATHERM 350 RAL 5012

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 : 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.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

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.

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

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments : 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.

See toxicological information (Section 11)

Viet Nam Page: 3/12

Product name SIGMATHERM 350 RAL 5012

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

: Use dry chemical, CO2, water spray (fog) or foam.

Unsuitable extinguishing media

: Do not use water jet.

Specific hazards arising from the chemical

: Fammable 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

sulfur 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. 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

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.

> **Viet Nam** Page: 4/12

Product name SIGMATHERM 350 RAL 5012

Section 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 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 noncombustible, 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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.

including any incompatibilities

Conditions for safe storage, : 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

Ingredient name	Exposure limits
∞ylene	Ministry of Health (Viet Nam, 6/2019). [xylene]
	STEL: 300 mg/m³ 15 minutes. TWA: 100 mg/m³ 8 hours.
ethylbenzene	ACGIH TLV (United States, 1/2023).
	Ototoxicant. TWA: 20 ppm 8 hours.
barium sulfate	ACGIH TLV (United States, 1/2023). TWA: 5 mg/m³ 8 hours. Form: Inhalable

Viet Nam Page: 5/12

Date of issue 20 December 2023 Version 12

Product name SIGMATHERM 350 RAL 5012

Section 8. Exposure controls/personal protection

toluene
fraction

Ministry of Health (Viet Nam, 6/2019).

STEL: 300 mg/m³ 15 minutes.

TWA: 100 mg/m³ 8 hours.

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

: 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.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection Skin protection

: Chemical splash goggles.

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

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

Not recommended: nitrile rubber

Recommended: neoprene, natural rubber (latex), polyvinyl alcohol (PVA), Viton®

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.

Viet Nam Page: 6/12

Product name SIGMATHERM 350 RAL 5012

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.
Color : Blue.

Odor : Characteristic.
Odor threshold : Not available.
pH : Not applicable.
Melting point : Not available.
Boiling point : >37.78°C (>100°F)
Flash point : Closed cup: 25°C (77°F)

Evaporation rate : Not available.
Flammability (solid, gas) : Not available.

Lower and upper explosive

(flammable) limits

: Lower: 0.83% Upper: 6.28%

Vapor pressure: Not available.Vapor density: Not available.

Relative density : 1.23

Solubility(ies) : Media Result

<mark>∞</mark>old water Not soluble

Partition coefficient: n-

octanol/water

: Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C): >21 mm²/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 sulfur oxides metal oxide/oxides

Viet Nam Page: 7/12

Product name SIGMATHERM 350 RAL 5012

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
kylene	LD50 Dermal	Rabbit	1.7 g/kg	-
•	LD50 Oral	Rat	4.3 g/kg	-
ethylbenzene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
•	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
barium sulfate	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LD50 Oral	Rat	5580 mg/kg	-
zinc bis(2-ethylhexanoate)	LD50 Dermal	Rabbit	>5 g/kg	-
,	LD50 Oral	Rat	2043 mg/kg	-

Conclusion/Summary

: There are no data available on the mixture itself.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
x ylene	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	

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)

Name	Category	Route of exposure	Target organs
xylene	Category 3	-	Respiratory tract irritation
toluene	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	,	Route of exposure	Target organs
ethylbenzene toluene	Category 2 Category 2	-	hearing organs -

Viet Nam Page: 8/12

Product code 00317272 Date of issue 20 December 2023 Version 12

Product name SIGMATHERM 350 RAL 5012

Section 11. Toxicological information

Aspiration hazard

Name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

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.

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

Short term exposure

Potential immediate

: 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

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: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/

or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Viet Nam Page: 9/12

Section 11. Toxicological information

Route	ATE value
Ø ral	5795.74 mg/kg
Dermal	2540.13 mg/kg
Inhalation (vapors)	14.3 mg/l
Inhalation (dusts and mists)	1.82 mg/l

Other information

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
e thylbenzene	Acute EC50 1.8 mg/l Fresh water	Daphnia Danhnia Cariadanhnia duhia	48 hours
zinc bis(2-ethylhexanoate)	Chronic NOEC 1 mg/l Fresh water EC50 16 mg/l	Daphnia - <i>Ceriodaphnia dubia</i> Daphnia	48 hours
	LC50 107 mg/l	Fish	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
e thylbenzene	-	79 % - Readily - 10 days	-	-
zinc bis(2-ethylhexanoate)	-	60 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
x ylene	-	-	Readily
ethylbenzene	-	-	Readily
toluene	-	-	Readily
zinc bis(2-ethylhexanoate)	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
x ylene	3.12	7.4 to 18.5	Low
ethylbenzene	3.6	79.43	Low
toluene	2.73	8.32	Low
zinc bis(2-ethylhexanoate)	-	60960	High

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

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

Viet Nam Page: 10/12

Product name SIGMATHERM 350 RAL 5012

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

Section 14. Transport information

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

Additional information

UN : None identified. **IMDG** : None identified. **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 : Not applicable. to IMO instruments

Viet Nam Page: 11/12

Product name SIGMATHERM 350 RAL 5012

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

: No known specific national and/or regional regulations applicable to this product (including its ingredients).

Circular no. 05/1999/TT-BYT

Ingredient name	Category	Notes
benzene	Category 1	
toluene	Category 2	
xylene	Category 2	
cobalt chromite blue green spinel	Category 2	

Toxic classification (TCVN : 4

3164-79)

International regulations

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Section 16. Other information

History

Date of issue/Date of

revision

: 20 December 2023

Date of previous issue : 5/18/2021

Version : 12
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.

Viet Nam Page: 12/12