## SAFETY DATA SHEET



Date of issue/Date of revision 9 October 2024

Version 13.01

# Section 1. Identification of the substance/mixture and of the company/undertaking

Product code : 00191019

Product name : SIGMASHIELD 220/420/460/880/880GF HARDENER

Other means of : Not available.

identification

Product type : Liquid.

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

Product use : Coating.; Hardener.

Professional applications, Used by spraying.

**Uses advised against**: Product is not intended, labelled or packaged for consumer use.

Supplier's details : PPG Coatings (Thailand) Co., Ltd.

15 Rama 9 Road, Kwaeng Huamark, Khet Bangkapi, Bangkok 10240 Thailand

T: 662-319-4190 #224 F: 662-319-4189

Emergency telephone number (with hours of

operation)

: CHEMTREC 001-800-13-203-9987 (CCN 17704)

## Section 2. Hazards identification

Classification of the substance or mixture

: FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 1

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

SKIN SENSITIZATION - Category 1B TOXIC TO REPRODUCTION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

AQUATIC HAZARD (ACUTE) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 1

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## Section 2. Hazards identification

Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 33.4%

Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 33.4%

Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 56.7%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 43.7%

## **GHS label elements**

Hazard pictograms











Signal word

**Hazard statements** 

Danger

Flammable liquid and vapor.

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction. May cause respiratory irritation.

May damage fertility or the unborn child.

Toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

#### **Precautionary statements**

**Prevention** 

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. 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 explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. If skin irritation or rash occurs: Get medical advice or attention. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

**Storage** 

: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

**Disposal** 

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

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Product name SIGMASHIELD 220/420/460/880/880GF HARDENER

## Section 2. Hazards identification

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.

Ingredient name	%	CAS number
Epoxy Amine Resin	25- <50 10- <20	SUB123903 1330-20-7
xylene Propylidynetrimethanol, propoxylated, reaction products with ammonia	10- <20	39423-51-3
benzyl alcohol 2-methylpropan-1-ol	10- <20 5- <10	100-51-6 78-83-1
bisphenol A	3 - <5	80-05-7
m-phenylenebis(methylamine) ethylbenzene	3 - <5 3 - <5	1477-55-0 100-41-4
2,4,6-tris(dimethylaminomethyl)phenol	1- <3	90-72-2

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 : Check for and remove any contact lenses. Immediately flush eyes with running

water for at least 15 minutes, keeping eyelids open. Seek immediate medical

attention.

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.

: If swallowed, seek medical advice immediately and show this container or label. Ingestion

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 damage.

Inhalation : Harmful if inhaled. May cause respiratory irritation.

Causes severe burns. Harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction. **Skin contact** 

Ingestion : Harmful if swallowed.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:

> watering redness

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## Section 4. First aid measures

**Inhalation** : Adverse symptoms may include the following:

respiratory tract irritation

coughing

reduced fetal weight increase in fetal deaths skeletal malformations

**Skin contact**: Adverse symptoms may include the following:

pain or irritation

redness dryness cracking

blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations

**Ingestion**: Adverse symptoms may include the following:

stomach pains 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. 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)

## 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

: 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 very toxic 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.

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## Section 5. Fire-fighting measures

**Hazardous thermal** decomposition products : Decomposition products may include the following materials: carbon oxides nitrogen 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

## 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 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. Collect spillage.

#### 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.

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.

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## 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. 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 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.

## 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
xylene	Ministry of Labor (Thailand, 8/2017)
	[xylene (o-, m-, p- isomers)]
	TWA 8 hours: 100 ppm.
2-methylpropan-1-ol	ACGIH TLV (United States, 7/2023)
, · ·	TWA 8 hours: 50 ppm.
	TWA 8 hours: 152 mg/m <sup>3</sup> .
m-phenylenebis(methylamine)	ACGIH TLV (United States, 7/2023)
	Absorbed through skin.
	C: 0.018 ppm.
ethylbenzene	Ministry of Labor (Thailand, 8/2017)
,	TWA 8 hours: 100 ppm.

## procedures

**Recommended monitoring**: 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.

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## Section 8. Exposure controls/personal protection

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. 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 Skin protection : Chemical splash goggles and face shield.

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
Body protection

: nitrile neoprene

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.

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## Section 9. Physical and chemical properties

**Appearance** 

Physical state : Liquid.

Color : Various [Light]
Odor : Amine-like.
Odor threshold : Not available.
pH : insoluble in water.

Melting point : Not available.

**Boiling point** : >37.78°C (>100°F)

Flash point : Closed cup: 36°C (96.8°F)

**Evaporation rate** : Not available.

Flammability (solid, gas) : liquid

Lower and upper explosive

(flammable) limits

: Not available.

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

Relative density : 1.02

Solubility(ies) : Media Result

cold water Not soluble

Partition coefficient: n-

octanol/water

: Not applicable.

Auto-ignition temperature : 305°C

Auto-ignition temperature : 505 v

**Decomposition temperature**: Stable under recommended storage and handling conditions (see Section 7).

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.

Trinematic (room temperature). Not ave

Kinematic (40°C): >21 mm²/s

Viscosity : > 100 s (ISO 6mm)

## 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.

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## Section 10. Stability and reactivity

Hazardous decomposition : Depending on conditions, decomposition products may include the following

products materials: carbon oxides nitrogen oxides

## Section 11. Toxicological information

## Information on toxicological effects

Product code 00191019

## **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
xylene xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
•	LD50 Oral	Rat	4.3 g/kg	-
Propylidynetrimethanol, propoxylated, reaction products with ammonia	LD50 Dermal	Rabbit	0.4 g/kg	-
reaction products with animonia	LD50 Oral	Rat	0.22 g/kg	_
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
,	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
2-methylpropan-1-ol	LC50 Inhalation Vapor	Rat	24.6 mg/l	4 hours
	LD50 Dermal	Rabbit	2460 mg/kg	-
	LD50 Oral	Rat	2830 mg/kg	-
bisphenol A	LD50 Dermal	Rabbit	3600 mg/kg	-
	LD50 Oral	Rat	3.25 g/kg	-
m-phenylenebis(methylamine)	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
, , , , , , , , , , , , , , , , , , , ,	LD50 Dermal	Rat - Male,	>3100 mg/kg	-
		Female		
	LD50 Oral	Rat	930 mg/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	_
2,4,6-tris(dimethylaminomethyl) phenol	LD50 Dermal	Rat	1280 mg/kg	-
1	LD50 Oral	Rat	1200 mg/kg	-

**Conclusion/Summary** 

: There are no data available on the mixture itself.

## **Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
m-phenylenebis (methylamine)	Skin - Moderate irritant Skin - Severe irritant	Rabbit Rat	-	24 hours 500 mg 4 hours	- 4 hours

## **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**

•	Route of exposure	Species	Result
m-phenylenebis (methylamine)	skin	Mouse	Sensitizing

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## **Section 11. Toxicological information**

**Conclusion/Summary** 

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
2-methylpropan-1-ol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
bisphenol A	Category 3	-	Respiratory tract irritation

## Specific target organ toxicity (repeated exposure)

Name	3.5	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

## **Aspiration hazard**

Name	Result
xylene	ASPIRATION HAZARD - Category 1
benzyl alcohol	ASPIRATION HAZARD - Category 2
2-methylpropan-1-ol	ASPIRATION HAZARD - Category 2
ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely

routes of exposure

: Not available.

### Potential acute health effects

**Eye contact** : Causes serious eye damage.

Inhalation : Harmful if inhaled. May cause respiratory irritation.

Skin contact : Causes severe burns. Harmful in contact with skin. Defatting to the skin. May

cause an allergic skin reaction.

**Ingestion** : Harmful if swallowed.

## Symptoms related to the physical, chemical and toxicological characteristics

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## Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:

> pain watering redness

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

reduced fetal weight increase in fetal deaths skeletal malformations

Skin contact : Adverse symptoms may include the following:

pain or irritation

redness dryness cracking

blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion : Adverse symptoms may include the following:

> stomach pains 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

effects

Not available.

Potential delayed effects : Not available.

Long term exposure

**Potential immediate** 

: Not available.

**Potential delayed effects** : Not available.

Potential chronic health effects

**General** : 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 : No known significant effects or critical hazards. Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : May damage fertility or the unborn child.

#### **Numerical measures of toxicity**

**Acute toxicity estimates** 

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## **Section 11. Toxicological information**

Route	ATE value
<b>Ø</b> ral	1185.37 mg/kg
Dermal	1786.21 mg/kg
Inhalation (gases)	47128.08 ppm
Inhalation (vapors)	22.33 mg/l
Inhalation (dusts and mists)	2.87 mg/l

#### Other information

Prolonged or repeated contact may dry skin and cause irritation. 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. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

## Section 12. Ecological information

## **Toxicity**

Product/ingredient name	Result	Species	Exposure
2-methylpropan-1-ol	Acute EC50 1100 mg/l	Daphnia	48 hours
bisphenol A	Acute LC50 0.885 mg/l Fresh water	Crustaceans	48 hours
·	Acute LC50 8.11 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 4.6 mg/l Fresh water	Fish	96 hours
	Chronic NOEC 0.000174 mg/l Fresh water	Fish	5 months
ethylbenzene	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
	Chronic NOEC 1 mg/l Fresh water	Daphnia - Ceriodaphnia dubia	_
2,4,6-tris	Acute LC50 >100 mg/l	Daphnia	48 hours
(dimethylaminomethyl)pheno	Acute LC50 >100 mg/l	Fish	96 hours

## **Conclusion/Summary**

: There are no data available on the mixture itself.

#### Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>e</b> thylbenzene	-	79 % - Readily - 10 days	-	-
2,4,6-tris (dimethylaminomethyl)phenol	OECD 301D Ready Biodegradability - Closed Bottle Test	4 % - Not readily - 28 days	-	-

## **Conclusion/Summary**

: There are no data available on the mixture itself.

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## Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
kylene	-	-	Readily
benzyl alcohol	-	-	Readily
bisphenol A	-	-	Readily
ethylbenzene	-	-	Readily
2,4,6-tris	-	-	Not readily
(dimethylaminomethyl)phenol			

#### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
kylene	3.12	7.4 to 18.5	Low
Propylidynetrimethanol, propoxylated, reaction products	-1.13	-	Low
with ammonia	0.87		Low
benzyl alcohol 2-methylpropan-1-ol	1	-	Low
bisphenol A	3.4	43.65	Low
m-phenylenebis(methylamine)	0.18	2.69	Low
ethylbenzene	3.6	79.43	Low
2,4,6-tris(dimethylaminomethyl)phenol	0.219	-	Low

## **Mobility in soil**

Soil/water partition coefficient (Koc)

: 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.

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Product name SIGMASHIELD 220/420/460/880/880GF HARDENER

## **Section 14. Transport information**

	UN	IMDG	IATA
UN number	UN3469	UN3469	UN3469
UN proper shipping name	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
Transport hazard class(es)	3 (8)	3 (8)	3 (8)
Packing group	III	III	III
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	Polyoxy propylene diamine)	Not applicable.

## **Additional information**

UN : None identified.

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation

regulations.

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

## Section 15. Regulatory information

**Harmful Chemicals List** 

Safety, health and environmental regulations specific for the product

: Listed

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

**International regulations** 

**Montreal Protocol** 

Not listed.

**Stockholm Convention on Persistent Organic Pollutants** 

Not listed.

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## **Section 16. Other information**

**History** 

Date of issue/Date of : 9 October 2024

revision

Date of previous issue : 9/18/2023

Version : 13.01
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.

#### **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.

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