# SAFETY DATA SHEET



#### Date of issue 11/7/2021 (month/day/year)

Version 17

## Section 1. Chemical product and company identification

A. Product name<br/>Product code: SIGMASHIELD 1200 LT HARDENER YELLOW<br/>: 00241643

#### B. Relevant identified uses of the substance or mixture and uses advised against

Product use	: Professional applications, Used by spraying.
Use of the substance/ mixture	: Coating.
Uses advised against	: Product is not intended, labelled or packaged for consumer use.
C. Supplier's or Importer's information	: PPG SSC (680-090) 19, Yeocheon-ro 217beon-gil, Nam-gu, Ulsan, Korea Tel: +82-52-210-8222
Email Address	Korea.MSDS@PPG.COM
Emergency telephone number:	: +82-52-210-8222

## Section 2. Hazards identification

A. Hazard classification	: CORROSIVE TO METALS - Category 1
	ACUTE TOXICITY (oral) - Category 4
	ACUTE TOXICITY (dermal) - Category 3
	ACUTE TOXICITY (inhalation) - Category 3
	SKIN CORROSION - Category 1A
	SERIOUS EYE DAMAGE - Category 1
	SKIN SENSITIZATION - Category 1
	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
	AQUATIC HAZARD (LONG-TERM) - Category 2
$- \frac{1}{2}$ (1.1)	

This product is classified in accordance with the Industrial Safety and Health Act and the Chemical Control Act.

#### B. GHS label elements, including precautionary statements Symbol :



Signal word

: Danger

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### Section 2. Hazards identification

	Hazard statements	:	<ul> <li>H290 - May be corrosive to metals.</li> <li>H302 - Harmful if swallowed.</li> <li>H311 + H331 - Toxic in contact with skin or if inhaled.</li> <li>H314 - Causes severe skin burns and eye damage.</li> <li>H317 - May cause an allergic skin reaction.</li> <li>H373 - May cause damage to organs through prolonged or repeated exposure.</li> <li>H411 - Toxic to aquatic life with long lasting effects.</li> </ul>
	<b>Precautionary statements</b>	5	
	Prevention	:	<ul> <li>P280 - Wear protective gloves, protective clothing and eye or face protection.</li> <li>P234 - Keep only in original packaging.</li> <li>P273 - Avoid release to the environment.</li> <li>P260 - Do not breathe vapor.</li> <li>P270 - Do not eat, drink or smoke when using this product.</li> <li>P264 - Wash thoroughly after handling.</li> </ul>
	Response		<ul> <li>P391 - Collect spillage.</li> <li>P390 - Absorb spillage to prevent material damage.</li> <li>P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.</li> <li>P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.</li> <li>P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.</li> <li>P363 - Wash contaminated clothing before reuse.</li> <li>P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water.</li> <li>P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.</li> <li>P305 + P351 + P338, P310 - 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.</li> </ul>
	Storage	1	Not applicable.
	Disposal	1	Not applicable.
с.	Other hazards which do		None known.

C. Other hazards which do : None known. not result in classification

## Section 3. Composition/information on ingredients

#### **CAS number/other identifiers**

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CAS number
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: Not applicable.

Chemical name	Common name	Identifiers	%
2,2'-dimethyl-4,4'-methylenebis	3,3'-Dimethyl-4,4'-	CAS: 6864-37-5	70 -
(cyclohexylamine)	diaminodicyclohexylmethane		<80
benzyl alcohol	BENZYL ALCOHOL	CAS: 100-51-6	5 - <10
Formaldehyde polymer with N,N-	Formaldehyde, polymer with N,N-	CAS: 445498-00-0	5 - <10
dimethyl-1,3-propanediamine and phenol	dimethyl-1,3-propanediamine and phenol		
N-(3-(trimethoxysilyl)propyl)	AMINOMETHOXYSILANE	CAS: 1760-24-3	1 - <5
ethylenediamine			
2,4,6-tris(dimethylaminomethyl)phenol	2;4;6 TRIS (DIMETHYLAMINOMETHYL)	CAS: 90-72-2	1 - <5
	PHENOL		

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### Section 3. Composition/information on ingredients

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.

### Section 4. First aid measures

Α.	Eye contact	1	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.
В.	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.
<b>C</b> .	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.
D.	Ingestion	:	If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.
Е.	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	1	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

Α.	Extinguishing media		
	Suitable extinguishing media	:	Use an extinguishing agent suitable for the surrounding fire.
	Unsuitable extinguishing media	:	None known.
В.	Specific hazards arising from the chemical	:	In a fire or if heated, a pressure increase will occur and the container may burst. This material is 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.
	Hazardous thermal decomposition products	•	Decomposition products may include the following materials: carbon oxides nitrogen oxides metal oxide/oxides Formaldehyde.

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### Section 5. Fire-fighting measures

C.	Special equipment for fire-fighting	-	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Fire-fighting procedures	-	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.

## Section 6. Accidental release measures

A. Personal precautions,	: No action shall be taken involving any personal risk or without suitable training.
protective equipment and	Evacuate surrounding areas. Keep unnecessary and unprotected personnel from
emergency procedures	entering. Do not touch or walk through spilled material. Do not breathe vapor or
	mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is
	inadequate. Put on appropriate personal protective equipment.

**B. 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.

#### C. 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. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
Large spill	: Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. 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

Α.	Precautions for safe handling	his wh va ad Ke ma res	at on appropriate personal protective equipment (see Section 8). Persons with a story of skin sensitization problems should not be employed in any process in nich this product is used. Do not get in eyes or on skin or clothing. Do not breathe por or mist. Do not ingest. Avoid release to the environment. Use only with lequate ventilation. Wear appropriate respirator when ventilation is inadequate. eep in the original container or an approved alternative made from a compatible aterial, kept tightly closed when not in use. Empty containers retain product sidue and can be hazardous. Do not reuse container. Absorb spillage to prevent aterial damage.

B. 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 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 in a corrosion resistant container with a resistant inner liner. Store locked up. Keep away from metals. 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

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## Section 7. Handling and storage

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

А.	None.	nit	S
	Recommended monitoring procedures	:	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
В.	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.
	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.
С.	Personal protective equipment		
	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.
	Eve protection	1	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	: nitrile neoprene

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.

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.

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### Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Α.	Appearance									
	Physical state	÷	Liquid.	quid.						
	Color	4	Yellow.							
В.	Odor	4	Amine-like.							
С.	Odor threshold	4	Not available.	available.						
D.	рН	4	Not applicable.							
Ε.	Melting/freezing point	1	Not available.							
F.	Boiling point/boiling range	:	>37.78°C (>100°F)							
G.	Flash point	1	Closed cup: 107°C (2	24.6°F)						
н.	Evaporation rate	1	Not available.							
Т.	Flammability (solid, gas)	:	Not available.							
J.	Lower and upper explosive (flammable) limits	:	Greatest known rang	e: Lower:	1.3% Up	oper: 13% (be	enzyl alco	ohol)		
ĸ	Vapor pressure	1		Vapor	r Pressu	re at 20°C	Vap	or pressu	ire at 50°C	
	and the procession of the second s									
κ.			Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method	
			Ingredient name		kPa	I	mm	-	1	
	Solubility	:		<b>mm Hg</b> 0.3000246	<b>kPa</b> 0.04	Method	mm	-	1	
			✓(3-(trimethoxysilyl) propyl)ethylenediamine	<b>mm Hg</b> 0.3000246	<b>kPa</b> 0.04	Method	mm	-	1	
L.	Solubility	: : :	✓(3-(trimethoxysilyl) propyl)ethylenediamine Insoluble in the follow	<b>mm Hg</b> 0.3000246	<b>kPa</b> 0.04	Method	mm	-	1	
L. M.	Solubility Solubility in water		Insoluble in the follow Not available.	<b>mm Hg</b> 0.3000246	<b>kPa</b> 0.04	Method	mm	-	1	
L. M. N.	Solubility Solubility in water Vapor density		V(3-(trimethoxysilyl) propyl)ethylenediamine Insoluble in the follow Not available. Not available.	<b>mm Hg</b> 0.3000246	<b>kPa</b> 0.04	Method	mm	-	1	
L. M. N. O.	Solubility Solubility in water Vapor density Relative density Partition coefficient: n-		✓(3-(trimethoxysilyl) propyl)ethylenediamine Insoluble in the follow Not available. Not available. 0.97	<b>mm Hg</b> 0.3000246	<b>kPa</b> 0.04	Method	mm	-	1	
L. M. N. O. P.	Solubility Solubility in water Vapor density Relative density Partition coefficient: n- octanol/water Auto-ignition	:	<ul> <li>✓(3-(trimethoxysilyl) propyl)ethylenediamine</li> <li>Insoluble in the follow</li> <li>Not available.</li> <li>Not available.</li> <li>0.97</li> <li>✓ot applicable.</li> </ul>	<b>mm Hg</b> 0.3000246	<b>kPa</b> 0.04	Method	mm	-	1	
L. M. N. O. P. Q.	Solubility Solubility in water Vapor density Relative density Partition coefficient: n- octanol/water Auto-ignition temperature Decomposition	:	<ul> <li>№ (3-(trimethoxysilyl) propyl)ethylenediamine</li> <li>Insoluble in the follow</li> <li>Not available.</li> <li>Not available.</li> <li>0.97</li> <li>Not applicable.</li> <li>275°C (527°F)</li> </ul>	mm Hg 0.3000246	kPa 0.04 rials: cold	Method water.	mm	-	1	
L. M. N. O. P. Q.	Solubility Solubility in water Vapor density Relative density Partition coefficient: n- octanol/water Auto-ignition temperature Decomposition temperature	:	<ul> <li>✓(3-(trimethoxysilyl) propyl)ethylenediamine</li> <li>Insoluble in the follow</li> <li>Not available.</li> <li>Not available.</li> <li>0.97</li> <li>✓ot applicable.</li> <li>275°C (527°F)</li> <li>Not available.</li> </ul>	mm Hg 0.3000246	kPa 0.04 rials: cold	Method water.	mm	-	1	
L. M. N. O. P. Q. R.	Solubility Solubility in water Vapor density Relative density Partition coefficient: n- octanol/water Auto-ignition temperature Decomposition temperature Viscosity		<ul> <li>✓ (3-(trimethoxysilyl) propyl)ethylenediamine</li> <li>Insoluble in the follow</li> <li>Not available.</li> <li>Not available.</li> <li>0.97</li> <li>✓ ot applicable.</li> <li>275°C (527°F)</li> <li>Not available.</li> <li>✓ inematic (40°C (104)</li> </ul>	mm Hg 0.3000246	kPa 0.04 rials: cold	Method water.	mm	-	1	

## Section 10. Stability and reactivity

Α.	Chemical stability	1	The product is stable.
	Possibility of hazardous reactions	1	Under normal conditions of storage and use, hazardous reactions will not occur.

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

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### Section 10. Stability and reactivity

C.	Incompatible materials	:	Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
	Llemendeure		Depending on conditions, decomposition and use movinglude the following

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

## Section 11. Toxicological information

redness

A. Information on the likely routes of exposure	: Not available.
Potential acute health effect	<u>ets</u>
Inhalation :	Toxic if inhaled.
Ingestion :	Harmful if swallowed.
Skin contact :	Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.
Eye contact :	Causes serious eye damage.
Over-exposure signs/symp	<u>toms</u>
Inhalation :	No specific data.
Ingestion :	Adverse symptoms may include the following: stomach pains
Skin contact :	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Eye contact :	Adverse symptoms may include the following: pain watering

#### **B. Health hazards**

#### **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-dimethyl-4,4'-methylenebis	LC50 Inhalation Dusts and	Rat	420 mg/m <sup>3</sup>	4 hours
(cyclohexylamine)	mists		0	
	LD50 Dermal	Rabbit	>0.2 g/kg	-
	LD50 Oral	Rat	>0.32 g/kg	-
benzyl alcohol	LC50 Inhalation Dusts and	Rat	>4178 mg/m <sup>3</sup>	4 hours
	mists		Ū	
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine	LD50 Oral	Rat	2413 mg/kg	-
2,4,6-tris(dimethylaminomethyl)phenol	LD50 Dermal	Rabbit	1.28 g/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-

**Conclusion/Summary** 

: There are no data available on the mixture itself.

#### Irritation/Corrosion

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## Section 11. Toxicological information

	•					
Product/ingredient name	Result	Species	Score	Exposure	Observation	
2,4,6-tris(dimethylaminomethyl) phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days	
Conclusion/Summary						
Skin : There are no data available on the mixture itself.						

 Inere	e are	e no	data	availabi	e on	lne	mixture	itsen.
<b>T</b> I			-1-4-			41		: L = - I.C

: There are no data available on the mixture itself.

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

#### **Sensitization**

Eyes

Product/ingredient name	Route of exposure	Species	Result				
2,4,6-tris (dimethylaminomethyl)phenol	skin	Guinea pig	Sensitizing				
		available on the mixture itself. available on the mixture itself.					
<u>Mutagenicity</u> Conclusion/Summary :							
Carcinogenicity Conclusion/Summary :							
<b>Reproductive toxicity Conclusion/Summary</b> : There are no data available on the mixture itself.							
<u>Teratogenicity</u> Conclusion/Summary :	There are no data	available on the mixture itself.					
Specific target organ toxicity	<u>y (single exposure</u>	D D					

Not available.

#### Specific target organ toxicity (repeated exposure)

Name	Classification	Route of exposure	Target organs
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Category 2	-	-

#### **Aspiration hazard**

Name	Result
benzyl alcohol	ASPIRATION HAZARD - Category 2

#### Potential chronic health effects

General

: May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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### Section 11. Toxicological information

Carcinogenicity	1
Mutagenicity	:
Reproductive toxicity	1

- No known significant effects or critical hazards.
- No known significant effects or critical hazards.
- No known significant effects or critical hazards.

#### **Additional information**

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. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C (140F).

Chemical name	Identifiers	GHS Classification
2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine)	CAS: 6864-37-5	ACUTE TOXICITY (oral) - Category 4
(-)		ACUTE TOXICITY (dermal) - Category 3
		ACUTE TOXICITY (inhalation) - Category 3
		SKIN CORROSION - Category 1A SERIOUS EYE DAMAGE - Category 1
		SPECIFIC TARGET ORGAN TOXICITY
		(REPEATED EXPOSURE) - Category 2
		AQUATIC HAZARD (LONG-TERM) - Category 2
benzyl alcohol	CAS: 100-51-6	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4
		ACUTE TOXICITY (definial) - Category 4
		EYE IRRITATION - Category 2A
		ASPIRATION HAZARD - Category 2
Formaldehyde polymer with N,N-	CAS: 445498-00-0	ACUTE TOXICITY (oral) - Category 4
dimethyl-1,3-propanediamine and phenol		AQUATIC HAZARD (ACUTE) - Category 1
		AQUATIC HAZARD (LONG-TERM) - Category 1
N-(3-(trimethoxysilyl)propyl) ethylenediamine	CAS: 1760-24-3	ACUTE TOXICITY (inhalation) - Category 4
,		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1B
2.4.6 trip(dimothylominomothyl)phonol	CAS: 90-72-2	AQUATIC HAZARD (LONG-TERM) - Category 3
2,4,6-tris(dimethylaminomethyl)phenol	CAS. 90-72-2	CORROSIVE TO METALS - Category 1 ACUTE TOXICITY (oral) - Category 4
		ACUTE TOXICITY (dermal) - Category 4
		SKIN CORROSION - Category 1C
		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1B

### Section 12. Ecological information

#### A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
♥,4,6-tris (dimethylaminomethyl) phenol	Acute LC50 175 mg/l	Fish	96 hours

#### B. Persistence and degradability

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## Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl alcohol	-	-	Readily

#### C. Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
2'-dimethyl-4,4'- methylenebis (cyclohexylamine)	1.8	-	low
benzyl alcohol 2,4,6-tris (dimethylaminomethyl) phenol	0.87 0.219	-	low low

#### D. Mobility in soil

Soil/water partition : Not available. coefficient (Koc)

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

## Section 13. Disposal considerations

- A. 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 nonrecyclable 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.
- **B.** Disposal precautions : 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	ΙΑΤΑ	
A. UN number UN2922		UN2922	UN2922	
		CORROSIVE LIQUID, TOXIC, N.O.S.	CORROSIVE LIQUID, TOXIC, N.O.S.	
(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl)pheno		(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl)phenol)	(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl)phenol	
C. Transport hazard class(es)	8 (6.1)	8 (6.1)	8 (6.1)	
D. Packing group	II	II	11	
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### Section 14. Transport information

Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.			
E. Marine Not applicable. pollutant substances		(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine))	Not applicable.			

#### **Additional information**

UN	: None identified.
IMDG	: The marine pollutant mark is not required when transported in sizes of $\leq$ 5 L or $\leq$ 5 kg.
ΙΑΤΑ	: The environmentally hazardous substance mark may appear if required by other transportation regulations.

# F. Special precaution which a user to be aware of or needs to comply with in connection with transport or transportation

**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

Α.	A. <u>Regulation according to ISHA</u>					
	ISHA article 117 (Harmful substances prohibited from manufacture)	: None of the components are listed.				
	ISHA article 118 (Harmful substances requiring permission)	: None of the components are listed.				
	Article 2 of Youth Protection Act on Substances Hazardous to Youth	: It is not allowed to sell to persons under the age of 19.				

#### **Exposure Limits of Chemical Substances and Physical Factors**

None of the components have an OEL.

ISHA Enforcement Regs Annex 19 (Exposure standards established for harmful factors)	:	None of the components are listed.
ISHA Enforcement Regs Annex 21 (Harmful factors subject to Work Environment Measurement)	:	None of the components are listed.

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## Section 15. Regulatory information

	ISHA Enforcement Regs Annex 22 (Harmful Factors Subject to Special Health Check- up)	:	None of the components are listed.		
	Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control)	:	None of the components are listed.		
В.	Regulation according to (	Ch	emicals Control Act		
	CCA Article 11 (TRI)	:	None of the components are listed.		
	Article 18 Prohibited (K- Reach Article 27)	:	None of the components are listed.		
	Article 19 Subject to authorization (K-Reach Article 25)	:	None of the components are listed.		
	Article 20 Restricted (K- Reach Article 27)	:	None of the components are listed.		
	Article 20 Toxic Chemicals (K-Reach Article 20)	:	Not applicable		
	Korea inventory	1	All components are listed or exempted.		
	CCA Article 39 (Accident Precaution Chemicals)	:	None of the components are listed.		
C.	Dangerous Materials Safety Management Act	:	Class: Class 4 - Flammable Liquid Item: 5. Class 3 petroleums - Water-insoluble liquid Threshold: 2000 L Danger category: III Signal word: Contact with sources of ignition prohibited		
D.	Wastes regulation	1	Dispose of contents and container in accordance with all local, regional, national and international regulations.		
Е.	Regulation according to e	Regulation according to other foreign laws			
	Safety, health and environmental regulations specific for the product	:	No known specific national and/or regional regulations applicable to this product (including its ingredients).		

## Section 16. Other information

A.	References	<ul> <li>Korean Ministry of Environment; Chemical Control Act Korean Ministry of Labor; Industrial Safety and Health Act NIER Notice Registry of Toxic Effects of Chemical Substances (RTECS) U.S. Environmental Protection Agency, AQUIRE (Aquatic toxicity Information Retrieval) ECOTOX Database System.</li> </ul>
В.	Date of issue/Date of revision	: 11/7/2021

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### Section 16. Other information

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	Prepared by	: EHS

D. Other

✓ Indicates information that has changed from previously issued version.

#### <u>Disclaimer</u>

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