

Date of issue 8/2/2020 (month/day/year)

Version 5

Section 1. Chemical product and company identification

- A. Product name** : PITT-CHAR NX BASE WHITE
Product code : 00424801
- 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 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** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION - Category 2
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

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 :

Warning

Hazard statements :

- H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H361 - Suspected of damaging fertility or the unborn child.
H400 - Very toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Section 2. Hazards identification

Precautionary statements

- Prevention** : P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapor.
P264 - Wash thoroughly after handling.
- Response** : P391 - Collect spillage.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : Not applicable.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

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

Section 3. Composition/information on ingredients

CAS number/other identifiers

- CAS number** : Not applicable.

Chemical name	Common name	Identifiers	%
<input checked="" type="checkbox"/> Boron zinc hydroxide oxide	ZINC BORATE HYDRATE	CAS: 138265-88-0	20 - <30
Borate(5-), bis[μ-oxotetraoxodiborato(4-)]-, ammonium tetrahydrogen, dihydrate, (T-4)-bis-[4-(2,3-epoxipropoxy)phenyl]propane phosphorous oxychloride, reaction products with propylene oxide	ammonium pentaborate	CAS: 12046-04-7	20 - <30
Triphenylphosphate	Bisphenol A diglycidyl ether	CAS: 1675-54-3	10 - <20
Epoxy resin (MW ≤ 700)	Reaction products of phosphoryl trichloride and 2-methyloxirane	CAS: 1244733-77-4	5 - <10
2,2-bis(acryloyloxymethyl)butyl acrylate	Triphenylphosphate	CAS: 115-86-6	5 - <10
Cashew, nutshell liq.	EPOXY RESIN (AVERAGE MOLECULAR WT < 700)	CAS: 25068-38-6	1 - <5
Quaternary ammonium compounds, benzylbis(hydrogenated tallow alkyl) methyl, chlorides	Trimethylolpropane triacrylate	CAS: 15625-89-5	1 - <5
	CASHEW NUTSHELL LIQUID	CAS: 8007-24-7	1 - <5
	QUATERNARY AMMONIUM COMPOUNDS, METHYL, CHLORIDES	CAS: 61789-73-9	0.1 - <1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Non displayed substances are regarded as Business Confidential information.

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

SUB codes represent substances without registered CAS Numbers.

Section 4. First aid measures

- A. 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.
- B. 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.
- C. 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.
- E. 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- A. Extinguishing media**
- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- B. 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 very toxic to aquatic life. 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
phosphorus oxides
halogenated compounds
metal oxide/oxides
- 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, protective equipment and emergency procedures** : 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. Avoid breathing 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. 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

- A. Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. 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.
- 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 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

A. Occupational exposure limits

Ingredient name	Exposure limits
Boron zinc hydroxide oxide Borate(5-), bis[μ-oxotetraoxodiborato(4-)]-, ammonium tetrahydrogen, dihydrate, (T-4)- Triphenylphosphate	ACGIH TLV (United States, 1/2011). TWA: 2 mg/m ³ , (Borate compounds. Inhalable fraction) STEL: 6 mg/m ³ , (Borate compounds. Inhalable fraction) ACGIH TLV (United States). TWA: 3 mg/m ³ Form: Respirable dust TWA: 10 mg/m ³ Form: inhalable dust Ministry of Employment and Labor (Republic of Korea, 1/2020). TWA: 3 mg/m ³ 8 hours.

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.

B. 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.

C. 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.

Eye 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 : polyethylene butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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. 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.

Section 9. Physical and chemical properties

- A. Appearance**
- Physical state** : Liquid.
 - Color** : White.
- B. Odor** : Aromatic. [Slight]
- C. Odor threshold** : Not available.
- D. pH** : Not available.
- E. Melting/freezing point** : Not available.
- F. Boiling point/boiling range** : >37.78°C (>100°F)
- G. Flash point** : Closed cup: 120°C (248°F)
- H. Evaporation rate** : Not available.
- I. Flammability (solid, gas)** : Not available.
- J. Lower and upper explosive (flammable) limits** : Not available.
- K. Vapor pressure** : Not available.
- L. Solubility** : Insoluble in the following materials: cold water.
- Solubility in water** : Not available.
- M. Vapor density** : Not available.
- N. Relative density** : 1.56
- O. Partition coefficient: n-octanol/water** : Not available.
- P. Auto-ignition temperature** : Not available.
- Q. Decomposition temperature** : Not available.
- R. Viscosity** : Kinematic (40°C (104°F)): >0.21 cm²/s (>21 cSt)
- S. Molecular weight** : Not applicable.

Section 10. Stability and reactivity

- A. Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : 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.

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.

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

Section 11. Toxicological information

A. Information on the likely routes of exposure : Not available.

Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin contact : Causes skin irritation. May cause an allergic skin reaction.
Eye contact : Causes serious eye irritation.

Over-exposure signs/symptoms

- Inhalation** : 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
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

B. Health hazards

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Boron zinc hydroxide oxide	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Borate(5-), bis[μ-oxotetraoxodiborato(4-)]-, ammonium tetrahydrogen, dihydrate, (T-4)-	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	4200 mg/kg	-
bis-[4-(2,3-epoxypropoxy)phenyl]propane	LD50 Dermal	Rabbit	23000 mg/kg	-
	LD50 Oral	Rat	15000 mg/kg	-
phosphorous oxychloride, reaction products with propylene oxide	LC50 Inhalation Dusts and mists	Rat	>7 mg/l	4 hours

Section 11. Toxicological information

	LD50 Dermal LD50 Oral	Rabbit Rat	>2000 mg/kg 630 to 2000 mg/kg	- -
Triphenylphosphate	LD50 Dermal LD50 Oral	Rabbit Rat	>7900 mg/kg 3500 mg/kg	- -
Epoxy resin (MW ≤ 700)	LD50 Dermal LD50 Oral	Rabbit Rat	>2 g/kg >2 g/kg	- -
2,2-bis(acryloyloxymethyl)butyl acrylate	LD50 Dermal LD50 Oral	Rabbit Rat	5170 mg/kg 5.19 g/kg	- -

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

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Eyes - Redness of the conjunctivae	Rabbit	0.4	24 hours	-
	Eyes - Mild irritant	Rabbit	-	24 hours	-
	Skin - Erythema/Eschar	Rabbit	0.8	4 hours	-
	Skin - Edema	Rabbit	0.5	4 hours	-
Epoxy resin (MW ≤ 700)	Skin - Mild irritant	Rabbit	-	4 hours	-
	Skin - Mild irritant	Rabbit	-	-	-
2,2-bis(acryloyloxymethyl)butyl acrylate	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Irritant	Rabbit	-	-	-

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

Product/ingredient name	Route of exposure	Species	Result
bis-[4-(2,3-epoxipropoxy)phenyl]propane	skin	Mouse	Sensitizing
Epoxy resin (MW ≤ 700)	skin	Mouse	Sensitizing
2,2-bis(acryloyloxymethyl)butyl acrylate	skin	Rabbit	Sensitizing

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

Section 11. Toxicological information

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)

Not available.

Aspiration hazard

Not available.

Potential chronic health effects

- General** : 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** : Suspected of damaging fertility or the unborn child.

Additional information

Sanding and grinding dusts may be harmful if inhaled. Acrylate components of the mixture have irritating properties. Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms, such as redness, blistering, dermatitis etc. May cause allergic skin reactions with repeated exposure. The inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract. Ingestion may cause nausea, weakness and central nervous system effects. In case of accidental skin contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation, rash or blistering occurs after contact.

Chemical name	Common name	CAS #	GHS Classification
Boron zinc hydroxide oxide	ZINC BORATE HYDRATE	138265-88-0	TOXIC TO REPRODUCTION - Category 2 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2
Borate(5-), bis[μ-oxotetraoxodiborato(4-)]-, ammonium tetrahydrogen, dihydrate, (T-4)-bis-[4-(2,3-epoxypropoxy)phenyl]propane	ammonium pentaborate	12046-04-7	TOXIC TO REPRODUCTION - Category 2
phosphorous oxychloride, reaction products with propylene oxide	Bisphenol A diglycidyl ether	1675-54-3	SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SKIN SENSITIZATION - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2
Triphenylphosphate	Reaction products of phosphoryl trichloride and 2-methyloxirane	1244733-77-4	ACUTE TOXICITY (oral) - Category 4 AQUATIC HAZARD (LONG-TERM) - Category 3
	Triphenylphosphate	115-86-6	AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) -

Section 11. Toxicological information

Epoxy resin (MW ≤ 700)	EPOXY RESIN (AVERAGE MOLECULAR WT < 700)	25068-38-6	Category 1 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SKIN SENSITIZATION - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2
2,2-bis(acryloyloxymethyl) butyl acrylate	Trimethylolpropane triacrylate	15625-89-5	SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SKIN SENSITIZATION - Category 1 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
Cashew, nutshell liq.	CASHEW NUTSHELL LIQUID	8007-24-7	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1
Quaternary ammonium compounds, benzylbis (hydrogenated tallow alkyl) methyl, chlorides	QUATERNARY AMMONIUM COMPOUNDS, METHYL, CHLORIDES	61789-73-9	SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1

Section 12. Ecological information

A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
Boron zinc hydroxide oxide	Acute LC50 76 mg/l	Daphnia - Daphnia magna straus	48 hours
Borate(5-), bis[μ-oxotetraoxodiborato(4-)]-, ammonium tetrahydrogen, dihydrate, (T-4)-bis-[4-(2,3-epoxipropoxy)phenyl]propane	Acute LC50 0.452 mg/l	Fish	96 hours
	Acute LC50 >100 mg/l	Fish	96 hours
phosphorous oxychloride, reaction products with propylene oxide	Acute LC50 1.8 mg/l Fresh water	Daphnia - daphnia magna	48 hours
	Chronic NOEC 0.3 mg/l EC50 82 mg/l	Daphnia Algae	21 days 72 hours
	EC50 131 mg/l	Daphnia	48 hours
	LC50 56.2 mg/l	Fish	96 hours
	NOEC 32 mg/l	Daphnia	48 hours

Section 12. Ecological information

Triphenylphosphate	Acute EC50 0.55 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Epoxy resin (MW ≤ 700)	Acute LC50 1.8 mg/l Chronic NOEC 0.3 mg/l	Daphnia	48 hours 21 days
2,2-bis(acryloyloxymethyl) butyl acrylate	Acute LC50 0.87 mg/l	Daphnia Fish	96 hours

B. Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Epoxy resin (MW ≤ 700)	OECD 301F	5 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
bis-[4-(2,3-epoxipropoxy) phenyl]propane	-	-	Not readily
Epoxy resin (MW ≤ 700)	-	-	Not readily

C. Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
phosphorous oxychloride, reaction products with propylene oxide	2.68	-	low
Triphenylphosphate	4.59	190.55	low
Epoxy resin (MW ≤ 700)	3	31	low

D. Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

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 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.

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	IATA
A. UN number	UN3082	UN3082	UN3082
B. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Boron zinc hydroxide oxide, bis-[4-(2,3-epoxipropoxy)phenyl]propane)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Boron zinc hydroxide oxide, bis-[4-(2,3-epoxipropoxy)phenyl]propane)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Boron zinc hydroxide oxide, bis-[4-(2,3-epoxipropoxy)phenyl]propane)
C. Transport hazard class(es)	9	9	9
D. Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.
E. Marine pollutant substances	Not applicable.	(Boron zinc hydroxide oxide, bis-[4-(2,3-epoxipropoxy)phenyl]propane)	Not applicable.

Additional information

- UN** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

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 to IMO instruments : Not applicable.

Section 15. Regulatory information

A. Regulation according to ISHA

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

Section 15. Regulatory information

The following components have an OEL:

Boron zinc hydroxide oxide

Borate(5-), bis[μ-oxotetraoxodiborato(4-)]-, ammonium tetrahydrogen, dihydrate, (T-4)-Triphenylphosphate

ISHA Enforcement Regs : None of the components are listed.

Annex 19 (Exposure standards established for harmful factors)

ISHA Enforcement Regs : None of the components are listed.

Annex 21 (Harmful factors subject to Work Environment Measurement)

ISHA Enforcement Regs : None of the components are listed.

Annex 22 (Harmful Factors Subject to Special Health Check-up)

Standard of Industrial Safety and Health Annex : The following components are listed: zinc and its compounds

12 (Hazardous substances subject to control)

B. Regulation according to Chemicals Control Act

CCA Article 11 (TRI) : The following components are listed: Boron and its compounds, 4,4'-(1-Methylethylidene) bisphenol polymer with (chloromethyl)oxirane

CCA Article 18 : None of the components are listed.

Prohibited (K-Reach Article 27)

CCA Article 19 Subject to authorization (K-Reach Article 25) : None of the components are listed.

CCA Article 20

Restricted (K-Reach Article 27) : None of the components are listed.

CCA Article 20 Toxic Chemicals (K-Reach Article 20)

: Not applicable

Korea inventory

: All components are listed or exempted.

CCA Article 39 (Accident Precaution Chemicals) : None of the components are listed.

C. Dangerous Materials Safety Management Act

: Not applicable.

D. Wastes regulation

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

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** : 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.
- B. Date of issue/Date of revision** : 8/2/2020
- C. Version** : 5
Prepared by : EHS
- D. Other**

Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> Not supported	Calculation method
<input type="checkbox"/> Not supported	Calculation method
<input type="checkbox"/> Not supported	Calculation method
<input type="checkbox"/> Not supported	Calculation method
<input type="checkbox"/> Not supported	Calculation method
<input type="checkbox"/> Not supported	Calculation method

Indicates information that has changed from previously issued version.

Disclaimer

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