1. Identification

A. Product name : CLEANPOXY DHDC-6400(S) (BASE) (GREY NU-3194)

B. Recommended Use and Restriction on Use
- ○ General use : For concrete
- ○ Restriction on use : Restricted to use other than recommended use

C. Manufacturer / Supplier / distributor information
- ○ Company name : NOROO Paint & Coatings Co., Ltd.
- ○ Address : 351, Bakdal-ro, Manan-gu, Anyang-si, Gyeonggi-do, Korea
- ○ Emergency telephone number : +82-31-467-6114

2. Hazard identification

A. GHS Classification
Acute toxicity (dermal) Category 4
Acute toxicity (inhalation: gas) Category 3
Specific target organ toxicity(Repeated exposure) Category 2
Skin sensitization Category 1

B. GHS label elements
- ○ Hazard symbols



- ○ Signal words : DANGER
- ○ Hazard statements :

H312 Harmful in contact with skin
H331 Toxic if inhaled
H373 Prolonged or repeated exposure may cause damage to the liver, testes, skin, respiratory system, blood and central nervous system of the body (Refer Section SDS 11)
H317 May cause an allergic skin reaction

- ○ Precautionary statements

- Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Do not breathe dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.

- Response

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P322 Specific measures
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P311 Call a POISON CENTER or doctor/physician.
P321 Specific treatment
P314 Get medical advice/attention if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

- Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

- Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulation

C. Other hazards which do not result in classification : (NFPA Classification)

NFPA grade / Chemical Name	Health	Flammability	Reactivity
Limestone	1	0	0
2,2-Bis(4'-glycidyloxyphenyl)propane	2	2	0
Rutile(TiO2)	1	0	0
(Butoxymethyl)oxirane	3	2	1
Kaolin	1	0	0
2-Butoxyethanol	3	2	0

3. Composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS-NO	Content(%)
Limestone	Limestone	1317-65-3	47～57
2,2-Bis(4'-glycidyloxyphenyl)propane	2,2-Bis(4'-glycidyloxyphenyl)propane	1675-54-3	36～46

Rutile(TiO2)	Rutile(TiO2)	1317-80-2	1～10
(Butoxymethyl)oxirane	(Butoxymethyl)oxirane	2426-08-6	1～10
Kaolin	Kaolin	1332-58-7	1～10
2-Butoxyethanol	2-Butoxyethanol	111-76-2	1～10

4. First-aid measures

A. Eye Contact : If irritation, pain, swelling, tears or glaring happens, take medical assistant immediately Flush exposed eyes with plenty of water for more than 15minutes.

B. Skin Contact : Wash off with soap and water for more than 15 minutes. And take medical assistant immediately. If symptoms like irritation or pain occurs, take medical assistant immediately. Remove exposed clothing, and wash off exposed area with soap and water.

C. Inhalation : Take a medical assistant immediately. Remove contaminated clothing and shoes, and isolate it. If hard to breathe, administering oxygen Perform the artificial respiration, using the pocket mask with one way valves or other respiratory medical devices. If inhalated or swallowed, do not perform the inhalation phase of breathing If not breathing, perform the artificial respiration. Avoid from exposure, and move into an area with fresh air.

D. Ingestion Contact : It is need to be considered that early removal of some ingested material by gastric lavage must be weighed against potential complications of bleeding or perforation Take proper medical assistant by symtoms. If ingested large quantity, take medical assistant. Do not try to induce vomiting, if occurs, keep head below hips to prevent swallow into lungs. Inducing vomit.

E. Notes to Physician : There is no specific antidote and take an appropriate medical treatment.

5. Fire-fighting measures

A. Suitable (Unsuitable) extinguishing media
- ○ Suitable extinguishing media : Powder extinguishing agent, gaseous Extinguishing Agent, and regular foam.
- ○ (Unsuitable) extinguishing media : Water is not appropriate extinguishing agent
- ○ Case of big fire : Use appropriate protective device depend on the situation. Stay away more than 800m to avoid tank explosion. Spread large amount of the extinguishing agent as a mist form with staying against wind.

B. Specific hazards arising from the chemical
- ○ Pyrolysate : Carbon dioxide, toxic carbon compounds/Nitrogen compounds/sulfur compounds
- ○ Fire and Explosion danger : Risk of medium-sized fire.

C. Special protective actions for fire-fighters
- ○ Personal Precautions, protective equipment : Gas mask or air respirator, heat resistant clothing, heat resistant helmet, heat resistant gloves, heat resistant boots
- ○ Emergency procedures : Block the area except for the fire-suppression personnel. Cooling containers with water long time after extinguish fire. If there is no risk, moving containers away from fire. Use appropriate extinguishing agents to catch fire.

6. Accidental release measures

A. Personal Precautions, protective equipment and emergency procedures
- ○ Personal Precautions, protective equipment : Gas mask for organic gases, other appropriate protective device / clothing / gloves.
- ○ Emergency procedures : Do not contact on the bare skin Do work with the personal protected devices such as gas mask for organic gases other appropriate protective devices / clothing / gloves. Spray water to reduce amount of steam. Take an action to block the leakage if there is no risk.

B. Environmental precautions
- ○ Atmosphere : Using local ventilation to Minimize the exposure to worker. Do install the local ventilations and full ventilation system
- ○ Soil : Use absorbent to collect the appropriate container. Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers.
- ○ Under water : Collect spilled material with mechanic devices Use absorbent to collect the appropriate container.

C. Methods and materials for containment and cleaning up
- ○ Small spill : Move to appropriate container for disposal of spilled material collected. Absorb for use sand or other non-combustible material.
- ○ Large spill : Notify to central and local government, when emissions are above regulation. Prohibit access of unnecessary people, isolate hazard area to secure.

7. Handling and storage

A. Precautions for safe handling : Use local ventilations and a full ventilation system when handling Seal the container for minimizing the petroleum steam Ground for preventing the static discharge Keep or handle followed by Dangerous goods Safety Management Act

B. Conditions for safe storage, including any incompatibilities : Stored in an isolated place, freezing caution, high temperature body caution. Avoid strong oxidizing agents, acid. Storage temperature: 5 ~ 35 ℃ Avoid direct sunlight while storing outdoor. Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.

8. Exposure controls/personal protection

A. Exposure Limits
- ○ Limestone
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- ○ 2,2-Bis(4'-glycidyloxyphenyl)propane

- ACGIH : NO DATA
- Biological exposure indices : NO DATA

○ Rutile(TiO2)
- ACGIH : NO DATA
- Biological exposure indices : NO DATA

○ (Butoxymethyl)oxirane
- ACGIH : NO DATA
- Biological exposure indices : NO DATA

○ Kaolin
- ACGIH : NO DATA
- Biological exposure indices : NO DATA

○ 2-Butoxyethanol
- ACGIH : NO DATA
- Biological exposure indices : NO DATA

B. Engineering Controls :
▷ Do install the local ventilations and full ventilation system
▷ Using local ventilation to Minimize the exposure to worker.
▷ NO DATA
▷ NO DATA

C. Personal Protective Equipment
○ Respiratory protection : Use the personal protect respirator for organic solvent or higher level of capacity when workers are supposed to be exposed under unsuitable respiratory working condition, or longer period exposure than standard level. Respirators should be authorized by Korea Occupational Safety and Health Agency
○ Eye protection : Let workers do wear the safety glasses in case hazard caused by mist may be expected. Install washing facilities and an emergency washing facilities close to workplace. Use the respirator for organic solvent or higher level.
○ Hand protection : Wear the chemical protective gloves Do the workers wear the impermeable protective gloves made from rubber/PVC due to skin irritation may be supposed by chronicle and long period exposure.
○ Skin protection : Wear appropriate chemical protective clothing. Work after wearing the impermeable protective apron made by rubber/PVC in case hazard caused by exposure or spill, wear the impermeable whole body protective clothing if needed.

9. Physical and chemical properties

A. Appearance : Liquid

B. Odor : Specific Odor

C. Odor threshold : NO DATA

D. PH : NO DATA

E. Melting point/Freezing point(℃) : NO DATA

F. Initial Boiling Point/Boiling Ranges(℃) : 171℃

G. Flash point(℃) : 74

H. Evaporating Rate : NO DATA

I. Flammability(solid, gas)(℃) : NON Flammable

J. Upper/Lower Flammability or explosive limits : NO DATA

K. Vapour pressure : NO DATA

L. Solubility : Water insoluble

M. Vapour density : NO DATA

N. Specific gravity : 1.5 ± 0.3

O. Partition coefficient of n-octanol/water : NO DATA

P. Autoignition temperature(℃) : 425

Q. Decomposition temperature(℃) : NO DATA

R. Viscosity : 30~250poise

S. Molecular weight : NO DATA

10. Stability and reactivity

A. Chemical stability : NO DATA

B. Possibility of hazardous reactions : Avoid contaminants and friction Do not contact with heat, spark, flame or other flammable sources

C. Conditions to avoid : Oxidation agent, metal and combustable materials

D. Hazardous decomposition products : Thermal decomposition products (carbon etc.,)

11.Toxicological information

A. Information on the likely routes of exposure
○ Respiratory tracts : Adverse lung effects, Dyspnoea, Hypothermia, Vomitting

○ Oral : Vomitting, Diarrhea, Stomach pain, Irregular heartbeat
○ Skin : Irritation, Burn, Adverse nerve effects
○ Eye : Irritation, eye damage

B. Delayed and immediate effects and also chronic effects from short and long term exposure
○ Limestone
- Acute toxicity
Oral : NO DATA
Dermal : NO DATA
Inhalation : NO DATA
- Skin corrosion/irritation : NO DATA
- Serious eye damage/irritation : NO DATA
- Respiratory sensitization : NO DATA
- Skin sensitization : NO DATA
- Carcinogenicity
IARC : NO DATA
OSHA : NO DATA
ACGIH : NO DATA
NTP : NO DATA
EU CLP : NO DATA
- Germ cell mutagenicity : NO DATA
- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
○ 2,2-Bis(4'-glycidyloxyphenyl)propane
- Acute toxicity
Oral : LD50 15600 mg/kg Other (Other)
Dermal : LD50 20000 mg/kg Rabbit
Inhalation : LD50 20000 mg/kg Rabbit
- Skin corrosion/irritation : weakstimulus(500mg, rabbit)
- Serious eye damage/irritation : Severe irritation(2mg, 24시간, rabbit)
- Respiratory sensitization : NO DATA
- Skin sensitization : NO DATA
- Carcinogenicity
IARC : Group 3
OSHA : NO DATA
ACGIH : NO DATA
NTP : NO DATA
EU CLP : NO DATA
- Germ cell mutagenicity : NO DATA
- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
○ Rutile(TiO2)
- Acute toxicity
Oral : LD50 > 24000 mg/kg Rat
Dermal : NO DATA
Inhalation : NO DATA
- Skin corrosion/irritation : NO DATA
- Serious eye damage/irritation : NO DATA
- Respiratory sensitization : NO DATA
- Skin sensitization : NO DATA
- Carcinogenicity
IARC : NO DATA
OSHA : NO DATA
ACGIH : NO DATA
NTP : NO DATA
EU CLP : NO DATA
- Germ cell mutagenicity : NO DATA
- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : This risk may be increased by exposure to a case : Respiratory disorders
- Aspiration hazard : NO DATA
○ (Butoxymethyl)oxirane
- Acute toxicity
Oral : LD50 = 1660 mg/kg Rat
Dermal : LD50 = 788 mg/kg Rabbit
Inhalation : LD50 = 788 mg/kg Rabbit
- Skin corrosion/irritation : weakstimulus(454mg, 3day, rabbit), usuallystimulus(20mg, 24H, rabbit) skin - stimulus
- Serious eye damage/irritation : Severe irritation(750ug, 24hr, rabbit), Mild irritant(91mg, rabbit)
- Respiratory sensitization : NO DATA
- Skin sensitization : Skin sensitization in humans have been reported
- Carcinogenicity
IARC : NO DATA
OSHA : NO DATA
ACGIH : NO DATA
NTP : NO DATA
EU CLP : Carc.2
- Germ cell mutagenicity : Using Mouse Micronucleus test result Positive

- Reproductive toxicity : rat micronucleus test : positive
- STOT-single exposure : Irritating people appear to pray
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA

○ Kaolin
- Acute toxicity
  Oral : NO DATA
  Dermal : NO DATA
  Inhalation : NO DATA
- Skin corrosion/irritation : NO DATA
- Serious eye damage/irritation : NO DATA
- Respiratory sensitization : NO DATA
- Skin sensitization : NO DATA
- Carcinogenicity
  IARC : NO DATA
  OSHA : NO DATA
  ACGIH : A4
  NTP : NO DATA
  EU CLP : NO DATA
- Germ cell mutagenicity : NO DATA
- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA

○ 2-Butoxyethanol
- Acute toxicity
  Oral : LD50 = 1746 mg/kg Rat
  Dermal : LD50 = 99 mg/kg Rabbit
  Inhalation : LD50 = 99 mg/kg Rabbit
- Skin corrosion/irritation : skin Irritation test result Irritation
- Serious eye damage/irritation : Using the rabbit eye irritation test results - Severe irritation
- Respiratory sensitization : NO DATA
- Skin sensitization : Guinea pig test results negative, human patch test results in negative
- Carcinogenicity
  IARC : Group 3
  OSHA : NO DATA
  ACGIH : A3
  NTP : NO DATA
  EU CLP : NO DATA
- Germ cell mutagenicity : (Using mouse and rat bone marrow cells) Micronucleustest Negative,
- Reproductive toxicity : (Using mouse and rat bone marrow cells) Micronucleustest Negative,
- STOT-single exposure : Throat irritation in humans are being observed. Appears neurotoxicity tests decreased activity decreased in rats and jerk reaction. Appears inhalation exposure test results suppress the central nervous system in rats and rabbits.
- STOT-repeated exposure : The toxic effects appear in the blood (red blood cells) by inhalation exposure in animals.
- Aspiration hazard : NO DATA

12. Ecological information

A. Ecotoxicity

○ Limestone
- Fish : NO DATA
- Crustaceans : NO DATA
- Algae : NO DATA

○ 2,2-Bis(4'-glycidyloxyphenyl)propane
- Fish : NO DATA
- Crustaceans : NO DATA
- Algae : NO DATA

○ Rutile(TiO2)
- Fish : LC50 = 35.988 mg/ℓ 96 hr
- Crustaceans : LC50 = 39.180 mg/ℓ 48 hr
- Algae : EC50 = 24.821 mg/ℓ 96 hr

○ (Butoxymethyl)oxirane
- Fish : NO DATA
- Crustaceans : NO DATA
- Algae : NO DATA

○ Kaolin
- Fish : NO DATA
- Crustaceans : NO DATA
- Algae : NO DATA

○ 2-Butoxyethanol
- Fish : LC50 = 1250 mg/ℓ 96 hr
- Crustaceans : LC50 = 5.4 mg/ℓ 96 hr
- Algae : NO DATA

B. Persistence and degradability

○ Limestone
- Persistence : NO DATA
- Degradability : NO DATA

○ 2,2-Bis(4'-glycidyloxyphenyl)propane
- Persistence : NO DATA

- Degradability : NO DATA

○ Rutile(TiO2)
- Persistence : NO DATA
- Degradability : NO DATA

○ (Butoxymethyl)oxirane
- Persistence : NO DATA
- Degradability : NO DATA

○ Kaolin
- Persistence : NO DATA
- Degradability : NO DATA

○ 2-Butoxyethanol
- Persistence : log Kow = 0.83
- Degradability : NO DATA

C. Bioaccumulative potential

○ Limestone
- Bioaccumulative potential : NO DATA
- Biodegration : NO DATA

○ 2,2-Bis(4'-glycidyloxyphenyl)propane
- Bioaccumulative potential : NO DATA
- Biodegration : NO DATA

○ Rutile(TiO2)
- Bioaccumulative potential : BCF = 10.38
- Biodegration : NO DATA

○ (Butoxymethyl)oxirane
- Bioaccumulative potential : NO DATA
- Biodegration : NO DATA

○ Kaolin
- Bioaccumulative potential : NO DATA
- Biodegration : NO DATA

○ 2-Butoxyethanol
- Bioaccumulative potential : NO DATA
- Biodegration : Biodegradability = 96 (%)

D. Mobility in soil

○ Limestone
▷ NO DATA

○ 2,2-Bis(4'-glycidyloxyphenyl)propane
▷ NO DATA

○ Rutile(TiO2)
▷ NO DATA

○ (Butoxymethyl)oxirane
▷ NO DATA

○ Kaolin
▷ NO DATA

○ 2-Butoxyethanol
▷ NO DATA

E. Other adverse effects

○ Limestone
▷ NO DATA

○ 2,2-Bis(4'-glycidyloxyphenyl)propane
▷ NO DATA

○ Rutile(TiO2)
▷ NO DATA

○ (Butoxymethyl)oxirane
▷ NO DATA

○ Kaolin
▷ NO DATA

○ 2-Butoxyethanol
▷ NO DATA

13. Disposal considerations

A. Disposal methods : Disposal material should keep in the airtighted container, and consign according to Waste Mateial Management Act

B. Special precautions for disposal : Discard it followed by appropriate regulations Prohibit the unauthorized disposal and incineration due to adversely affect natural ecosystems

14. Transport information

A. UN number : Non regulated

B. Proper shipping name : N/A

C. Hazard class : Non dangerous goods

D. Packing group : N/A

E. Marine pollutant : N/A

F. Special precautions for user related to transport or transportation measures

○ EmS FIRE SCHEDULE : N/A

○ EmS SPILLAGE SCHEDULE : N/A

15. Regulatory information

○ Limestone
- Information of EU Classification
  - ▷ Classification : NO DATA
  - ▷ Risk Phrases : NO DATA
  - ▷ Safety Phrase : NO DATA
- U.S. Federal regulations
  - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
  - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
  - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
  - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
  - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA

○ 2,2-Bis(4'-glycidyloxyphenyl)propane
- Information of EU Classification
  - ▷ Classification : NO DATA
  - ▷ Risk Phrases : NO DATA
  - ▷ Safety Phrase : NO DATA
- U.S. Federal regulations
  - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
  - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
  - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
  - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
  - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA

○ Rutile(TiO2)
- Information of EU Classification
  - ▷ Classification : NO DATA
  - ▷ Risk Phrases : NO DATA
  - ▷ Safety Phrase : NO DATA
- U.S. Federal regulations
  - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
  - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
  - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
  - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
  - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA

○ (Butoxymethyl)oxirane
- Information of EU Classification
  - ▷ Classification : NO DATA
  - ▷ Risk Phrases : NO DATA
  - ▷ Safety Phrase : NO DATA
- U.S. Federal regulations
  - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
  - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
  - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
  - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
  - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA

○ Kaolin
- Information of EU Classification
  - ▷ Classification : NO DATA
  - ▷ Risk Phrases : NO DATA
  - ▷ Safety Phrase : NO DATA
- U.S. Federal regulations
  - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
  - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
  - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
  - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
  - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA

○ 2-Butoxyethanol
- Information of EU Classification
  - ▷ Classification : NO DATA
  - ▷ Risk Phrases : NO DATA
  - ▷ Safety Phrase : NO DATA
- U.S. Federal regulations
  - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
  - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable

▷ EPCRA Section 302 (40CFR355.30) : notapplicable
▷ EPCRA Section 304 (40CFR355.40) : notapplicable
▷ EPCRA Section 313 (40CFR372.65) : notapplicable
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA

16. Other information

A. Reference
- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability of fitness for a particular purpose is made with respect to the product or the information contained herein.

- This Safety Data Sheet was complied with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date : 2025-11-17

C. Revision number and Last date revised : 2.(2025-11-17)

D. Other : " WWW.NOROO.CO.KR"