

1. Identification

- A. Product name : NEW HARDENER PRIMER (BASE) (L/GREEN)
 Usage category : Oil paint
- 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
- D. AU Importer
 Company Name : Synergy Building Supplies
 Address: 236 PLANET ST WELSHPOOL WA 6106
 Emergency Telephone Number: 1300 655 853

2. Hazard identification

- A. GHS Classification
Flammable liquids Category 3
Acute toxicity (inhalation: vapor) Category 4
Carcinogenicity Category 1A
Reproductive toxicity Category 1B
Germ cell mutagenicity Category 1B
Chronic aquatic toxicity Category 2
Serious eye damage/irritation Category 2A
Specific target organ toxicity(Repeated exposure) Category 2
Skin sensitization Category 1
Skin corrosion/irritation Category 2
Aspiration hazard Category 1
Acute toxicity (oral) Category 5
Acute toxicity (dermal) Category 5

- B. GHS label elements
 Hazard symbols



- Signal words : DANGER
- Hazard statements :
- H226 Flammable liquid and vapour
 - H332 Harmful if inhaled
 - H350 May cause cancer
 - H360 May damage fertility or the unborn child
 - H340 May cause genetic defects
 - H411 Toxic to aquatic life with long lasting effects
 - H319 Causes serious eye irritation
 - 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
 - H315 Causes skin irritation
 - H304 May be fatal if swallowed and enters airways
 - H303 May be harmful if swallowed.
 - H313 May be harmful in contact with skin.
- Precautionary statements

- Prevention
 - P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. no smoking
 - P223 Do not contact with water
 - P240 Ground container and receiving equipment
 - P241 Use explosion-proof equipment (electricity, ventilation, lighting, etc.)
 - P242 Use only non-sparking tools. Flammable liquids (chapter 2.6) 1, 2, 3
 - P243 Take precautionary measures against static discharge.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
 - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 - P271 Use only outdoors or in a well-ventilated area.
 - P201 Obtain special instructions before use.
 - P202 Do not handle until all safety precautions have been read and understood.
 - P273 Avoid release to the environment.
 - P264 Wash hands and contact areas thoroughly after handling.
 - P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 - P272 Contaminated work clothing should not be allowed out of the workplace.
- Response
 - P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).
 - P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 - P308+P313 If exposed or concerned: Get medical advice / attention.
 - P391 Collect spillage.
 - 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 attention / attention.
 - P314 Get medical advice/attention if you feel unwell.
 - P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 - P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 - P321 Specific treatment
 - P362+P364 Take off contaminated clothing and wash before reuse.
 - P332+P313 If skin irritation occurs: Get medical advice/attention.
 - P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 - P331 Do NOT induce vomiting.
- Storage
 - P403+P235 Store in a well-ventilated place. Keep cool.
 - P405 Store by locking.
- Disposal
 - P501 Dispose of the contents and containers in accordance with waste-related laws.

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

Chemical Name	NFPA grade	Health	Flammability	Reactivity	GHS Classification
Limestone		1	0	0	H303, H313
2,2-Bis(4'-glycidyoxyphenyl)propane		2	2	0	H303, H313, H315, H317, H319, H411
Quartz (SiO ₂)		1	0	0	H350
Talc(Containing no asbestos fibers)		1	0	0	H303, H313
Xylene		NO DATA	NO DATA	NO DATA	H226, H303, H304, H313, H315, H319, H332, H373

2-Butoxyethanol	3	2	0	H226, H303, H313, H315, H319, H332
Dodecylphenol, mixed isomers	NO DATA	NO DATA	NO DATA	H303, H313, H319, H360, H411
Ethylbenzene	2	3	0	H226, H303, H304, H313, H332, H411
Trade secret	NO DATA	NO DATA	NO DATA	NO DATA
2-Propanol	2	3	0	H226, H303, H313
Naphtha (petroleum), hydrodesulfurized heavy	NO DATA	NO DATA	NO DATA	H226, H303, H304, H313, H315, H319, H340, H373

3. Composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS-NO	Content(%)
Limestone	Limestone	1317-65-3	25~35
2,2-Bis(4'-glycidyoxyphenyl)propane	2,2-Bis(4'-glycidyoxyphenyl)propane	1675-54-3	18~28
Quartz (SiO2)	Quartz (SiO2)	14808-60-7	13~23
Talc(Containing no asbestos fibers)	Talc(Containing no asbestos fibers)	14807-96-6	12~22
Xylene	Xylene	1330-20-7	5~15
2-Butoxyethanol	2-Butoxyethanol	111-76-2	1~10
Dodecylphenol, mixed isomers	Dodecylphenol, mixed isomers	27193-86-8	1~10
Ethylbenzene	Ethylbenzene	100-41-4	1~10
Trade secret	-	-	1~10
2-Propanol	2-Propanol	67-63-0	1~10
Naphtha (petroleum), hydrodesulfurized heavy	Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	0.1~4

4. First-aid measures

A. Eye Contact : Flush exposed eyes with plenty of water for more than 15minutes.

If irritation, pain, swelling, tears or glaring happens, take medical assistant immediately
Do not rub your eyes.

If you wear a contact lenses, remove them first.

B. Skin Contact : Remove exposed clothing, and wash off exposed area with soap and water.

If symptoms like irritation or pain occurs, take medical assistant immediately.

Wash off with soap and water for more than 15 minutes. And take medical assistant immediately.

If symptoms like redness or irritation occurs, take medical assistant immediately.

Wash carefully after handling.

Wear gloves while washing the patient and avoid contact with exposed clothes.

C. Inhalation : Avoid from exposure, and move into an area with fresh air.

If not breathing, perform the artificial respiration.

If inhaled or swallowed, do not perform the inhalation phase of breathing

Perform the artificial respiration, using the pocket mask with one way valves or other respiratory medical devices.

If hard to breathe, administering oxygen

Remove contaminated clothing and shoes, and isolate it.

Take a medical assistant immediately.

D. Ingestion Contact : Please be advised by doctor whether induction of vomit is demanded or not.

vomiting occurs, keep head below hips to prevent aspiration into lungs.

If ingested large quantity, take medical assistant.

Take proper medical assistant by symptoms.

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

Flush mouth with water immediately.

E. Notes to Physician : Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. Fire-fighting measures

A. Suitable (Unsuitable) extinguishing media

- Suitable extinguishing media : Powder extinguishing agent, gaseous Extinguishing Agent, and regular foam.
- (Unsuitable) extinguishing media : Avoid digestion using direct water.
Avoid use waterjet as fire extinguishing agent.
Avoid extinguishing fire with halogenting agent.
- Case of big fire : Spread large amount of the extinguishing agent as a mist form with staying against wind.
Stay away more than 800m to avoid tank explosion.
Use appropriate protective device depend on the situation.

B. Specific hazards arising from the chemical

- Pyrolysate : Carbon dioxide, toxic carbon compounds/Nitrogen compounds/sulfur compounds
Irritating and highly toxic gases may produced during the combustion by pyrolysis or combustion itself.
- Fire and Explosion danger : Risk of medium-sized fire.
Aqueous (Exclude water-soluble one) products does not have risk of fire or explosion hazard by itself.
Vapor may be released to the ignition source and ignited.
May form explosive mixture at or above ignition point
Container may explode when heating
Leakages may fire / explosion hazard and could be easily ignited by heat, sparks or flames.
Vapors may explode indoors, outdoors, and in drains

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 : Use appropriate extinguishing agents to catch fire.
If there is no risk, moving containers away from fire.
Cooling containers with water long time after extinguish fire.
Block the area except for the fire-suppression personnel.
Protect others from access and prohibit access to dangerous areas.
Tell the fire department, location of the fire and the hazardous features.
Use an unmanned fire extinguishing device, in case of large-sized fire. If not, leave it to burn.
Avoid inhalation of the substance or combustion products.
Do not approach if the tank is on fire.

6. Accidental release measures

A. Personal Precautions, protective equipment and emergency procedures

- Personal Precautions, protective equipment : Appropriate protective equipment / protection / protective gloves
- Emergency procedures : Take an action to block the leakage if there is no risk.
Spray water to reduce amount of steam.
The operator should wear appropriate protective equipment (see section "8. Exposure Protection and Personal Protection") to avoid contact with the eyes and skin and inhalation.

B. Environmental precautions

- Atmosphere : Do install the local ventilations and full ventilation system
Using local ventilation to Minimize the exposure to worker.

○ Soil : Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers.

Use absorbent to collect the appropriate container.

○ Under water : Use absorbent to collect the appropriate container.

Collect spilled material with mechanic devices

C. Methods and materials for containment and cleaning up

○ Small spill : Absorb for use sand or other non-combustible material.

Move to appropriate container for disposal of spilled material collected.

○ Large spill : Prohibit access of unnecessary people, isolate hazard area to secure.

Notify to central and local government, when emissions are above regulation.

7. Handling and storage

A. Precautions for safe handling : Keep or handle followed by Dangerous goods Safety Management Act

Ground for preventing the static discharge

Seal the container for minimizing the petroleum steam

Use local ventilations and a full ventilation system when handling

Wash carefully after handling.

Avoid contact with prohibited materials in mixture.

Do not handle until read and understood all safety precautions.

Do not inhale vapor for long-term or repeatedly.

Avoid contact with heat, sparks, flames or other sources of ignition.

Do not take contaminated clothings away from the work area.

Storing with combustible substances such as stained clothes or paper may cause fire by spontaneous ignition. Thus do not stack it, and keep it in a non-flammable container with cap filled with water and dispose it.

B. Conditions for safe storage, including any incompatibilities : Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.

Avoid direct sunlight while storing outdoor.

Storage temperature: 5 ~ 35 °C

Avoid strong oxidizing agents, acid.

Store at appropriate temperature according to the isolation location, freezing caution, high temperature body caution.

No open fire.

Store in a cool, dry, well-ventilated area.

Check periodically for leaks

Store in accordance with all current law and regulations.

Store in original container only.

Prevent static electricity and do not store near heat sources.

Collect in an airtight container to dispose.

Store away from waterworks and sewers.

8. Exposure controls/personal protection

A. Exposure Limits

○ Limestone

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

○ 2,2-Bis(4'-glycidyoxyphenyl)propane

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

○ Quartz (SiO₂)

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

○ Talc(Containing no asbestos fibers)

- ACGIH : NO DATA
- Biological exposure indices : NO DATA
- Xylene
 - ACGIH : NO DATA
 - Biological exposure indices : While urinating Methylhippuric acids : 1.5 g/g creatinine(After work)
- 2-Butoxyethanol
 - ACGIH : TWA, 20 ppm (97 mg/m³)
 - Biological exposure indices : While urinating Butoxyacetic acid (BAA)(with hydrolysis) : 200 mg/g creatinine(After work)
- Dodecylphenol, mixed isomers
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
- Ethylbenzene
 - ACGIH : NO DATA
 - Biological exposure indices : While urinating (The sum of Mandelic acid, Phenylglyoxylic acids) : 0.15 g/g creatinine(After work)
- Trade secret
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
- 2-Propanol
 - ACGIH : NO DATA
 - Biological exposure indices : While urinating Acetone : 40 mg/g (After work)
- Naphtha (petroleum), hydrodesulfurized heavy
 - 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 : Respirators should be authorized by Korea Occupational Safety and Health Agency
Unknown concentration or other life threatening danger is imminent: Supplied air respirator(Hybrid airline respirator), and Self contained breathing apparatus(full face)
Consider warning properties before use.
Respiratory protection may be needed, while frequent use or heavy exposure.
Respiratory protection is ranked in order from minimum to maximum
If there is possibility of direct contact or exposure to these substances should wear a authorized dust-proof mask or respirator for organic compounds
- Eye protection : Install washing facilities and an emergency washing facilities close to workplace.
Let workers do wear the safety glasses in case hazard caused by mist may be expected.
If there is possibility of direct contact or exposure to these substances should wear authorized safty glasses or mask.
- Hand protection : If there is possibility of direct contact or exposure to these substances should wear authorized safety gloves for chemicals.
- Skin protection : If there is a possibility of direct contact or exposure to the substance Wear protective clothing for chemical substances

9. Physical and chemical properties

A. Appearance : 유색 점성 액체

B. Odor : 특취

- C. Odor threshold : 자료없음
- D. PH : 자료없음
- E. Melting point/Freezing point(℃) : 자료없음
- F. Initial Boiling Point/Boiling Ranges(℃) : 자료없음
- G. Flash point(℃) : 31
- H. Evaporating Rate : 자료없음
- I. Flammability(solid, gas) : 자료없음
- J. Upper/Lower Flammability or explosive limits : 자료없음
- K. Vapour pressure : 자료없음
- L. Solubility : 자료없음
- M. Vapour density : 자료없음
- N. Specific gravity : 자료없음
- O. Partition coefficient of n-octanol/water : 자료없음
- P. Autoignition temperature(℃) : 자료없음
- Q. Decomposition temperature(℃) : 자료없음
- R. Viscosity : 76-98 (KU/25℃)
- S. Molecular weight : 자료없음

10. Stability and reactivity

- A. Chemical stability : NO DATA
- B. Possibility of hazardous reactions : Do not contact with heat, spark, flame or other flammable sources
Avoid contaminants and friction
- C. Conditions to avoid : Oxidation agent, metal and combustible 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'-glycidyoxyphenyl)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, 24 시간, 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
- Quartz (SiO₂)
 - 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 : Group 1
 - OSHA : NO DATA
 - ACGIH : A2
 - NTP : K
 - EU CLP : NO DATA
 - Germ cell mutagenicity : in vivo Mutagenictest (Bone Marrow Micronucleus test) result Negative, chromosomal abnormalities testresult Negative, Micronucleus testresult Positive
 - Reproductive toxicity : in vivo Mutagenictest (Bone Marrow Micronucleus test) result Negative, chromosomal abnormalities testresult Negative, Micronucleus testresult Positive
 - STOT-single exposure : NO DATA
 - STOT-repeated exposure : NO DATA
 - Aspiration hazard : NO DATA
- Talc(Containing no asbestos fibers)
 - Acute toxicity
 - Oral : NO DATA

- Dermal : NO DATA
- Inhalation : NO DATA
- Skin corrosion/irritation : 300 µg/3day(human) : weak stimulus
- Serious eye damage/irritation : NO DATA
- Respiratory sensitization : NO DATA
- Skin sensitization : NO DATA
- Carcinogenicity
 - IARC : Group 2B
 - OSHA : NO DATA
 - ACGIH : A4
 - NTP : NO DATA
 - EU CLP : NO DATA
- Germ cell mutagenicity : Salmonella species / Negative
- Reproductive toxicity : Salmonella species / Negative
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
- Xylene
 - Acute toxicity
 - Oral : LD50=3550 mg/kg rat
 - Dermal : LD50 4350 mg/kg Rabbit
 - Inhalation : LD50 4350 mg/kg Rabbit
 - Skin corrosion/irritation : Skin irritation test in rabbits Causes moderate irritation.
 - Serious eye damage/irritation : Skin irritation test in rabbits Causes moderate irritation.
 - Respiratory sensitization : NO DATA
 - Skin sensitization : NO DATA
 - Carcinogenicity
 - IARC : Group 3
 - OSHA : NO DATA
 - ACGIH : A4
 - NTP : NO DATA
 - EU CLP : NO DATA
 - Germ cell mutagenicity : If three people a voice dynamics, somatic cell mutagenicity tests in vivo (micronucleus test, chromosome test) Voice
 - Reproductive toxicity : If three people a voice dynamics, somatic cell mutagenicity tests in vivo (micronucleus test, chromosome test) Voice
 - STOT-single exposure : NO DATA
 - STOT-repeated exposure : NO DATA
 - Aspiration hazard : In the liquid can cause chemical pneumonia if swallowed.
- 2-Butoxyethanol
 - Acute toxicity
 - Oral : LD50 1414 mg/kg Guinea pig (OECD TG 401, GLP)
 - Dermal : LD50 >2000 mg/kg Rat (ECHA)
 - Inhalation : Vapor LC50 >7.4 mg/ℓ 7 hr Rat (ECHA)
 - Skin corrosion/irritation : As a result of skin irritation test using rabbits, it is erythema irritation 2, which is not applicable under the GHS standard, but it is sufficient to determine that it is irritating EU Method B.4 (ECHA)
 - Serious eye damage/irritation : Eye irritation test results showed conjunctival irritation index 2.6, iritis 0.56, conjunctival edema 1.8, indicating irritation OECD TG405, GLP (ECHA)
 - Respiratory sensitization : NO DATA
 - Skin sensitization : Skin sensitization test results using guinea pigs non-sensitization (OECD TG 406, ECHA)
 - Carcinogenicity
 - IARC : Group 3
 - OSHA : NO DATA
 - ACGIH : A3
 - NTP : NO DATA

EU CLP : NO DATA

- Germ cell mutagenicity : Reverse mutation test using in vitro microorganisms OECD TG471, chromosomal abnormality test using mammalian cells OECD TG473 result negative, micronucleus test using mammalian bone marrow cells in vivo OECD TG474 result negative (ECHA)
 - Reproductive toxicity : 2nd generation reproductive toxicity test (NTP) results, NOAEL (parental toxicity) = 720 mg/kg bw/day due to weight loss, fertility, etc., NOAEL (F1, F2) = 720 mg/kg bw/ due to weight loss of offspring day, no effect on reproductive toxicity was observed, developmental toxicity and teratogenic effects were not observed as a result of developmental toxicity test using rats (OECD TG414) NOAEL (development) = 100 mg/kg bw/day, NOAEL (teratogenicity) > 200 mg/kg bw/day (ECHA)
 - STOT-single exposure : As a result of respiratory irritation test using mice, RD50 2818 ppm showed minimal or no sensory stimulation (ECHA)
 - STOT-repeated exposure : As a result of a 90-day repeated oral toxicity test in rats, OECD TG408 showed some abnormalities in liver and cytoplasm in histopathological findings, but no adverse effects were observed. NOAEL male <69 mg/kg bw/day, NOAEL female <82 mg/kg bw/day 90-day inhalation repeat toxicity test using mice OECD TG413, GLP Results NOAEC <31ppm (ECHA)
 - Aspiration hazard : NO DATA
- Dodecylphenol, mixed isomers
- 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
- Ethylbenzene
- Acute toxicity
 - Oral : LD50 = 3500 mg/kg Rat
 - Dermal : LD50 = 15400 mg/kg Rabbit
 - Inhalation : Steam LC50 = 4000 ppm 4 hr Rat (Equivalentents : 17.4 mg/L)
 - Skin corrosion/irritation : skin Irritation test result weak Irritation
 - Serious eye damage/irritation : Rabbit eye irritation test results in a slight conjunctival irritation, recoverable damage.
 - Respiratory sensitization : NO DATA
 - Skin sensitization : NO DATA
 - Carcinogenicity
 - IARC : Group 2B
 - OSHA : NO DATA
 - ACGIH : A3
 - NTP : NO DATA
 - EU CLP : NO DATA
 - Germ cell mutagenicity : Micronucleustest Negative (7)
 - Reproductive toxicity : Micronucleustest Negative (7)
 - STOT-single exposure : It causes central nervous system effects in laboratory animals and airway irritation.
 - STOT-repeated exposure : NO DATA

- Aspiration hazard : Hydrocarbons. Swallowing the liquid by aspiration may cause chemical pneumonia. Ties seongryul 0.74 mm² / s (25 °C)
- Trade secret
 - 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-Propanol
 - Acute toxicity
 - Oral : LD50 = 4710 mg/kg Rat
 - Dermal : LD50 = 12870 mg/kg rabbit
 - Inhalation : LD50 = 12870 mg/kg rabbit
 - Skin corrosion/irritation : (using rabbit) skin Irritation test result weak Irritation and in people non-irritating
 - Serious eye damage/irritation : The rabbit eye irritation test results of weak or too irritating impartial
 - Respiratory sensitization : NO DATA
 - Skin sensitization : Guinea pig test results negative
 - Carcinogenicity
 - IARC : Group 3
 - OSHA : NO DATA
 - ACGIH : A4
 - NTP : NO DATA
 - EU CLP : NO DATA
 - Germ cell mutagenicity : (Using mouse bone marrow cells)Micronucleus test - Negative
 - Reproductive toxicity : (Using mouse bone marrow cells)Micronucleus test - Negative
 - STOT-single exposure : By inhalation exposure in rats decreased the activity is displayed. Stimulation of the digestive tract in humans during acute intoxication, blood pressure, body temperature, such as depression, central nervous system symptoms, renal failure appears.
 - STOT-repeated exposure : In mice it was 4 gaewol inhalation exposure experiment reported that the effect on the blood vessels, liver, spleen, kidneys and may impact on the anesthetic action is recognized
 - Aspiration hazard : Test mice when administered within 24 hours of the spectacle of death from cardiopulmonary arrest is recognized, an
- Naphtha (petroleum), hydrodesulfurized heavy
 - Acute toxicity
 - Oral : LD50 = 5000 mg/kg Rat
 - Dermal : LD50 = 3160 mg/kg rabbit
 - Inhalation : LD50 = 3160 mg/kg rabbit
 - Skin corrosion/irritation : usuallystimulus(rabbit)
 - Serious eye damage/irritation : Non-irritating(rabbit)
 - Respiratory sensitization : NO DATA
 - Skin sensitization : NO DATA

- Carcinogenicity
 - IARC : NO DATA
 - OSHA : NO DATA
 - ACGIH : NO DATA
 - NTP : NO DATA
 - EU CLP : Carc. 1B
- Germ cell mutagenicity : EU CLP: 1B (case containing less than 0.1% of the benzene in a weight ratio of the material not applied to the present classification)
- Reproductive toxicity : EU CLP: 1B (case containing less than 0.1% of the benzene in a weight ratio of the material not applied to the present classification)
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA

12. Ecological information

A. Ecotoxicity

- Limestone
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- 2,2-Bis(4'-glycidyoxyphenyl)propane
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- Quartz (SiO₂)
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- Talc(Containing no asbestos fibers)
 - Fish : LC50 > 100000 mg/ℓ 24 hr Brachydanio rerio
 - Crustaceans : LC50 = 94983.781 mg/ℓ 48 hr
 - Algae : LC50 = 48545.539 mg/ℓ
- Xylene
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- 2-Butoxyethanol
 - Fish : LC50 1474 mg/ℓ 96 hr Oncorhynchus mykiss(OECD Guideline 203)
 - Crustaceans : EC50 1800 mg/ℓ 48 hr Daphnia magna(OECD TG 202)
 - Algae : EC50 911 mg/ℓ 72 hr Selenastrum capricornutum(OECD TG 201)
- Dodecylphenol, mixed isomers
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- Ethylbenzene
 - Fish : LC50 = 9.09 mg/ℓ 96 hr
 - Crustaceans : LC50 = 0.4 mg/ℓ 96 hr
 - Algae : NO DATA
- Trade secret
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- 2-Propanol
 - Fish : LC50 > 100 mg/ℓ 96 hr
 - Crustaceans : NO DATA

- Algae : EC50 = 2.2 mg/ℓ 96 hr
- Naphtha (petroleum), hydrodesulfurized heavy
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA

B. Persistence and degradability

- Limestone
 - Persistence : NO DATA
 - Degradability : NO DATA
- 2,2-Bis(4'-glycidyoxyphenyl)propane
 - Persistence : NO DATA
 - Degradability : NO DATA
- Quartz (SiO₂)
 - Persistence : NO DATA
 - Degradability : NO DATA
- Talc(Containing no asbestos fibers)
 - Persistence : log Kow = -1.50
 - Degradability : NO DATA
- Xylene
 - Persistence : NO DATA
 - Degradability : NO DATA
- 2-Butoxyethanol
 - Persistence : 0.81 log Kow (25 ° C, pH=7, BASF standard method)
 - Degradability : NO DATA
- Dodecylphenol, mixed isomers
 - Persistence : NO DATA
 - Degradability : NO DATA
- Ethylbenzene
 - Persistence : NO DATA
 - Degradability : NO DATA
- Trade secret
 - Persistence : NO DATA
 - Degradability : NO DATA
- 2-Propanol
 - Persistence : NO DATA
 - Degradability : NO DATA
- Naphtha (petroleum), hydrodesulfurized heavy
 - Persistence : NO DATA
 - Degradability : NO DATA

C. Bioaccumulative potential

- Limestone
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- 2,2-Bis(4'-glycidyoxyphenyl)propane
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- Quartz (SiO₂)
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- Talc(Containing no asbestos fibers)
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- Xylene
 - Bioaccumulative potential : NO DATA
 - Biodegradation : 39 (%)

- 2-Butoxyethanol
 - Bioaccumulative potential : NO DATA
 - Biodegradation : 90.4 % 28 day (OECD TG 301G)
- Dodecylphenol, mixed isomers
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- Ethylbenzene
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- Trade secret
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- 2-Propanol
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- Naphtha (petroleum), hydrodesulfurized heavy
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA

D. Mobility in soil

- Limestone
 - ▷ NO DATA
- 2,2-Bis(4'-glycidyoxyphenyl)propane
 - ▷ NO DATA
- Quartz (SiO₂)
 - ▷ NO DATA
- Talc(Containing no asbestos fibers)
 - ▷ NO DATA
- Xylene
 - ▷ log Kow = 3.12 (measured) (ortho), 3.2 (measured) (meta), 3.15 (measurements) (p) (5)
- 2-Butoxyethanol
 - ▷ NO DATA
- Dodecylphenol, mixed isomers
 - ▷ NO DATA
- Ethylbenzene
 - ▷ log Kow = 3.15 (11)
- Trade secret
 - ▷ NO DATA
- 2-Propanol
 - ▷ NO DATA
- Naphtha (petroleum), hydrodesulfurized heavy
 - ▷ NO DATA

E. Other adverse effects

- Limestone
 - ▷ NO DATA
- 2,2-Bis(4'-glycidyoxyphenyl)propane
 - ▷ NO DATA
- Quartz (SiO₂)
 - ▷ NO DATA
- Talc(Containing no asbestos fibers)
 - ▷ NO DATA
- Xylene
 - ▷ NO DATA
- 2-Butoxyethanol
 - ▷ Fish Danio rerio: NOEC14d>100 mg/L OECD TG 204, Crustacean Daphnia magna: NOEC21d=100 mg/L OECD TG 211 (ECHA)
- Dodecylphenol, mixed isomers

- ▷ NO DATA
- Ethylbenzene
 - ▷ NO DATA
- Trade secret
 - ▷ NO DATA
- 2-Propanol
 - ▷ NO DATA
- Naphtha (petroleum), hydrodesulfurized heavy
 - ▷ NO DATA

13. Disposal considerations

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

Pre-treat with oil-water separation method when it is available.

Recycle the recycleable materials, such as organic solvents, and then incinerate the residue at high temperature.

To prevent environmental pollution, dispose it to a licensed waste disposal company.

B. Special precautions for disposal : Bussiness that discharge business waste shall process them selves, or delegate to waste treatment processor, recycler, or waste treatment operator.

Dispose of waste in accordance with all applicable laws and regulations.

14. Transport information

A. UN number(IMDG CODE/IATA DGR) : 1263

B. Proper shipping name : Paint (including paint, lacquer, enamel, colorants, shellac solutions, varnish, polish, liquid filler and liquid lacquer sealer) or related materials (including paint diluent and reductant).
(2,2-Bis(4'-glycidyoxyphenyl)propane)

C. Hazard class : 3

D. Packing group(IMDG CODE/IATA DGR) : III

E. Marine pollutant : be applicable

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

Local transport follows in accordance with Dangerous goods Safety Management

Package and transport follow in accordance with Department of Transportation

EmS FIRE SCHEDULE : F-E

EmS SPILLAGE SCHEDULE : S-E

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'-glycidyoxyphenyl)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

○ Quartz (SiO₂)

- 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

○ Talc(Containing no asbestos fibers)

- 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

○ Xylene

- 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) : 45.3599 kg 100 lb
 - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
 - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
 - ▷ EPCRA Section 313 (40CFR372.65) : pertinent
- 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) : NO DATA
 - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
 - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
 - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
 - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA
- Dodecylphenol, mixed isomers
 - Information of EU Classification
 - ▷ Classification : NO DATA
 - ▷ Risk Phrases : NO DATA
 - ▷ Safety Phrase : NO DATA
 - U.S. Federal regulations
 - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
 - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
 - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
 - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
 - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
 - Rotterdam Convention listed ingredients : NO DATA
 - Stockholm Convention listed ingredients : NO DATA
 - Montreal Protocol listed ingredients : NO DATA
- Ethylbenzene
 - 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) : 453.599 kg 1000 lb
 - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
 - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
 - ▷ EPCRA Section 313 (40CFR372.65) : pertinent
 - Rotterdam Convention listed ingredients : NO DATA
 - Stockholm Convention listed ingredients : NO DATA
 - Montreal Protocol listed ingredients : NO DATA
- Trade secret
 - Information of EU Classification
 - ▷ Classification : NO DATA
 - ▷ Risk Phrases : NO DATA
 - ▷ Safety Phrase : NO DATA
 - U.S. Federal regulations
 - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
 - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
 - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
 - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
 - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
 - Rotterdam Convention listed ingredients : NO DATA
 - Stockholm Convention listed ingredients : NO DATA
 - Montreal Protocol listed ingredients : NO DATA
- 2-Propanol

- 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) : pertinent
 - Rotterdam Convention listed ingredients : NO DATA
 - Stockholm Convention listed ingredients : NO DATA
 - Montreal Protocol listed ingredients : NO DATA
- Naphtha (petroleum), hydrodesulfurized heavy
- 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 or fitness for a particular purpose is made with respect to the product or the information contained herein.

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

B. Issue date : 2000-10-23

C. Revision number and Last date revised : 5.(2023-11-27)

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