SAFETY DATA SHEET

According to OSHA Hazcom Standard 29 CFR 1910.1200

WATERPON GR 1360(RSM)

Date of issue: 2025-11-28 Revision date: 2025-11-28 Version: 1.1

1. IDENTIFICATION

A. Product name

- WATERPON GR 1360(RSM)

B. Recommended use and restriction on use

- General use : Metal surface treatment agent
- Restriction on use : Do not use for any purpose other than recommended

C. Manufacturer / Supplier / Distributor information

- Company name : NOROO Coil Coating
- Address : 54, Jangheung-ro 39beon-gil, Nam-gu, Pohang-si, Gyeongsangbuk-do, Republic of Korea
- Emergency telephone number : 054-278-0277

2. HAZARD IDENTIFICATION

A. GHS Classification

- Skin corrosion/irritation : Category1
- Serious eye damage/irritation : Category1
- Respiratory sensitization : Category1
- Skin sensitization : Category1

B. GHS label elements

○ Hazard symbols



○ Signal words

- Not applicable

○ Hazard statements

- H314 Causes severe skin burns and eye damage
- H317 May cause an allergic skin reaction
- H318 Causes serious eye damage
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

○ Precautionary statements

1) Prevention

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P284 In case of inadequate ventilation wear respiratory protection.

2) Response

- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

- P302+P352 IF ON SKIN: Wash with plenty of soap and water.

- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- P310 Immediately call a POISON CENTER or doctor/physician.

- P321 Specific treatment (if in eyes, wash with plenty of running water; if in contact with skin, wash with plenty of running water; if inhaled, move to fresh air; if ingested, seek medical advice on whether to induce vomiting).

- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

- P362 Take off contaminated clothing and wash before reuse.

- P362+P364 Take off contaminated clothing and wash before reuse.

- P363 Wash contaminated clothing before reuse.

3) Storage

- P405 Store locked up.

4) Disposal

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

C. Other hazards which do not result in classification

- Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Water	Aqua; Dihydrogen oxide	7732-18-5	75
Ethanol	Alcohol anhydrous ; Alcohol dehydrated ; Ethyl alcohol ; Ethanol solution ; Alcohol ; Fermentation alcohol ; Algrain ; Ethyl hydrate ; Ethyl hydroxide	64-17-5	9
Chromium trinitrate	Nitric acid, chromium(3+) salt ; Chromium(III) nitrate ; Cromium nitrate ; Chromic trinitrate ; Chromium(3+) nitrate ;	13548-38-4	5
Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-	Glymo ; 3-Glycidoxypropyltrimethoxysilane ; 3-(Trimethoxysilyl)propyl glycidyl ether ; Trimethoxy-[3-(oxiran-2-ylmethoxy)propyl]silane	2530-83-8	2
Chromium orthophosphate	Chromous phosphatehexahydrate	7789-04-0	5
Dipropylene glycol methyl ether	Propanol, 1(or 2)-(2-methoxymethylethoxy)- ; Dipropyleneglycol monomethyl ether ; Propanol, (2-methoxymethylethoxy)- ; 2-(2-Methoxypropoxy)propan-1-ol ; Methyl dipropasol ; Oxybispropanol methyl ether	34590-94-8	2

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.

- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

- Get medical attention immediately.

- Remove contact lenses if worn.

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Wash thoroughly after handling.

C. Inhalation contact

- Take specific treatment if needed.
- When exposed to large amounts of steam and mist, move to fresh air.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.
- Remove to fresh air and keep at rest in a position comfortable for breathing.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Avoid use of water jet for extinguishing
- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray

B. Specific hazards arising from the chemical

- Causes serious eye damage
- Causes severe skin burns and eye damage
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- May cause an allergic skin reaction

C. Special protective actions for firefighters

- Avoid inhalation of materials or combustion by-products.
- Cool containers with water until well after fire is out.
- Do not approach the tank surrounded by fire until it is extinguished.
- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Keep unauthorized personnel out.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Do not touch spilled material. Stop leak if you can do it without risk.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment
- Move container to safe area from the leak area.
- Must work against the wind, let the upwind people to evacuate.
- Remove all sources of ignition.

B. Environmental precautions

- Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. If large spills, advise emergency services.
- If large amounts have been spilled, inform the relevant authorities.
- Prevent runoff and contact with waterways, drains or sewers.

C. Methods and materials for containment and cleaning up

- Appropriate container for disposal of spilled material collected.

- Dike for later disposal.
- Disposal of waste shall be in compliance with the Wastes Control Act
- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notify the central and local government if the emission reach the standard threshold.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Avoid contact with incompatible materials.
- Avoid direct physical contact.
- Comply with all applicable laws and regulations for handling
- Dealing only with a well-ventilated place.
- Do not handle until all safety precautions have been read and understood.

B. Conditions for safe storage, including any incompatibilities

- Avoid direct sunlight.
- Check regularly for leaks.
- Do not apply any physical shock to container.
- Do not apply direct heat.
- Do not use damaged containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

○ ACGIH TLV

- [Ethanol] : STEL, 1000 ppm (1880 mg/m3)
- [Chromium trinitrate] : TWA, 0.5 mg/m3, as Cr (Metal and trivalent Cr compounds), TWA, 0.05 mg/m3, as Cr (Water-Soluble Cr VI Compounds), TWA, 0.01 mg/m3, as Cr (Insoluble Cr VI Compounds),
- [Chromium orthophosphate] : TWA, 0.5 mg/m3, as Cr (Metal and trivalent Cr compounds), TWA, 0.05 mg/m3, as Cr (Water-Soluble Cr VI Compounds), TWA, 0.01 mg/m3, as Cr (Insoluble Cr VI Compounds),
- [Dipropylene glycol methyl ether] : TWA 50 ppm

○ OSHA PEL

- [Ethanol] : 1000 ppm, 1900 mg/m3
- [Chromium trinitrate] : 0.5 mg/m3
- [Chromium trinitrate] : 1 mg/m3
- [Chromium orthophosphate] : 0.5 mg/m3
- [Chromium orthophosphate] : 1 mg/m3
- [Dipropylene glycol methyl ether] : 100 ppm, 600 mg/m3

B. Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

C. Individual protection measures, such as personal protective equipment

○ Respiratory protection

- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- Any chemical cartridge respirator with a full facepiece and organic vaporcartridge(s).
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Consider warning properties before use.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.
- Respiratory protection is ranked in order from minimum to maximum.
- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.

○ Eye protection

- Provide an emergency eye wash station and quick drench shower in the immediate work area.
- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.

○ Hand protection

- Wear appropriate chemical resistant glove.

○ Skin protection

- Wear appropriate chemical resistant protective clothing.

○ Others

- Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Liquid
- Color	Milky green
B. Odor	Not available
C. Odor threshold	Not available
D. pH	1.5 ± 0.5
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	100℃
G. Flash point	Not applicable
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	1.02 ± 0.02 (25℃)
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	10.5 ± 1.0 sec (Ford cup #4)
S. Molecular weight	Not available

10. STABILITY AND REACTIVITY

A. Chemical Stability

- This material is stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid: Heating, Flames and hot surfaces

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

○ Respiratory tracts

- May cause allergy or asthma symptoms or breathing difficulties if inhaled

○ Oral

- Not available

○ Eye·Skin

- Causes serious eye damage
- Causes severe skin burns and eye damage
- May cause an allergic skin reaction

B. Delayed and immediate effects and also chronic effects from short and long term exposure

○ Acute toxicity

* Oral
  - Product (ATEmix) : >5000mg/kg
  - [Water] : LD50 > 90000 ㎎/㎏ Rat (LD50 > 90 ml/kg) (HSDB)
  - [Ethanol] : LD50 6200 mg/kg Rat (HSDB)
  - [Chromium trinitrate] : LD50 1410 mg/㎏ Rat female (Some Deaths , OECD Guideline 401) (ECHA)
  - [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : LD50 8025 mg/kg (7.5 mL/kg) Rat (OECD TG 401) (ECHA)
  - [Dipropylene glycol methyl ether] : LD50 5660 ㎎/㎏ Rat (OECD Guideline 401, ECHA)

* Dermal
  - Product (ATEmix) : >5000mg/kg
  - [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : LD50 4248 mg/kg (3.97 mL/kg) Rabbit (OECD TG 402, GLP) (ECHA)
  - [Dipropylene glycol methyl ether] : LD50 9510 mg/kg Rat (OECD Guideline 402, ECHA)

* Inhalation
  - Product (ATEmix) : >50.0mg/L, Vapour, 4hr
  - [Ethanol] : Vapor LC50 124.7 mg/L 4 hr Rat Not classified (OECD TG 403) (ECHA)
  - [Chromium trinitrate] : Dust LC50 < 4.58 ㎎/ℓ 4 hr Rat (OECD Guideline 403, GLP) (ECHA)
  - [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : Aerosol LC50 > 5.3 mg/L 4 hr Rat No death Not classified (OECD TG 403, GLP) (ECHA)
  - [Dipropylene glycol methyl ether] : Vapor LC0 >500 ppm(3.1 mg/L) 7hr(661 ppm(4.1 mg/L) 4hr) Rat (OECD Guideline 403)GHS Not classified (ECHA)

○ Skin corrosion/irritation

- Causes severe skin burns and eye damage

○ Serious eye damage/irritation

- Causes serious eye damage

○ Respiratory sensitization

- May cause allergy or asthma symptoms or breathing difficulties if inhaled

○ Skin sensitization

- May cause an allergic skin reaction

○ Carcinogenicity

* IARC
  - [Ethanol] : Group 1 (Ethanol in alcoholic beverages)
  - [Chromium trinitrate] : Group 3 (Chromium [III] compounds)
  - [Chromium orthophosphate] : Group 3 (Chromium [III] compounds)

* OSHA
  - Not available

* ACGIH

- [Ethanol] : A3
- [Chromium trinitrate] : A4
- [Chromium orthophosphate] : A4

* NTP
- Not available

* EU CLP
- Not available

○ Germ cell mutagenicity
- Not available

○ Reproductive toxicity
- Not available

○ STOT-single exposure
- Not available

○ STOT-repeated exposure
- Not available

○ Aspiration hazard
- Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

○ Fish
- [Ethanol] : LC50 15.3 g/L 96 hr Pimephales promelas, NOEC 250 mg/L 120 hr Danio rerio (ECHA)
- [Chromium trinitrate] : LC50 > 24.09 ㎎/ℓ 96 hr (OECD Guideline 203 (Fish, Acute Toxicity Test) (ECHA)
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : LC50 55 mg/L 96 hr Cyprinus carpio (ECHA)
- [Dipropylene glycol methyl ether] : LC50 >1000 ㎎/ℓ 96 hr Other(Poecilia reticulata, OECD Guideline 203, GLP)(ECHA)

○ Crustaceans
- [Ethanol] : LC50 5012 mg/L 48 hr, NOEC 2 mg/L 10 d Ceriodaphnia dubia (ECHA)
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : EC50 324 mg/L 48 hr Simocephalus vetulus (ECHA)
- [Dipropylene glycol methyl ether] : LC50 1919 ㎎/ℓ 48 hr Daphnia magna(OECD Guideline 202) (ECHA)

○ Algae
- [Ethanol] : EC50 675 mg/L 96 hr Chlorella vulgaris, NOEC 5400 mg/L 5 d Skeletonema costatum (ECHA)
- [Chromium trinitrate] : EC50 > 0.4 ㎎/ℓ 96 hr Pseudokirchnerella subcapitata, (Read-across) (ECHA)
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : EC50 350 mg/L 96 hr, NOEC 130 mg/L 96 hr Raphidocelis subcapitata (ECHA)
- [Dipropylene glycol methyl ether] : EC50 >969 ㎎/ℓ 96 hr Selenastrum capricornutum(OECD Guideline 201, GLP), NOEC(72h)= 969mg/L(OECD Guideline 201 ,GLP) (ECHA)

B. Persistence and degradability

○ Persistence
- [Water] : log Kow -1.38 (HSDB)
- [Ethanol] : log Kow -0.32 (ICSC)
- [Dipropylene glycol methyl ether] : 0.004 log Kow (ECHA)

○ Degradability
- Not available

C. Bioaccumulative potential

○ Bioaccumulative potential
- [Ethanol] : BCF 1 (ECHA)

○ Biodegradation

- [Ethanol] : 74 % 5 d, Readily biodegradable (ECHA)

- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : 37 % 28 d Not readily biodegradable (ECHA)

- [Dipropylene glycol methyl ether] : 34 % 24 day (non-biodegradable, OECD Guideline 301 B, GLP)(ECHA)

D. Mobility in soil

- Not available

E. Other adverse effects

- [Chromium trinitrate] : Fish(Salmo gairdneri); NOEC(72d); 48 ug/L, (OECD Guideline 210, Fish, Early-Life Stage Toxicity Test), Crustaceans(Daphnia magna); NOEC(21d) 66.11 ug/L (ECHA)

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- It shall be treated by incineration

- Oil water separation technology shall be applied as pre-waste treatment if it is applicable

- Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them

B. Special precautions for disposal

- Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act

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

14. TRANSPORT INFORMATION

A. UN No. (IMDG CODE/IATA DGR)

- N/A

B. Proper shipping name

- Not applicable

C. Hazard Class

- Not applicable

D. IMDG CODE/IATA DGR Packing group

- Not applicable

E. Marine pollutant

- Not applicable

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

- Air transport(IATA): Not subject to IATA regulations.

- Local transport follows in accordance with Dangerous goods Safety Management Law.

- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.

- EmS FIRE SCHEDULE : Not available

- EmS SPILLAGE SCHEDULE : Not available

15. REGULATORY INFORMATION

A. National and/or international regulatory information

○ POPs Management Law

- [Water] : Not applicable

- [Ethanol] : Not applicable

- [Chromium trinitrate] : Not applicable

- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : Not applicable

- [Chromium orthophosphate] : Not applicable

- [Dipropylene glycol methyl ether] : Not applicable

○ Information of EU Classification

* Classification

- [Ethanol] : H225

○ U.S. Federal regulations

* OSHA PROCESS SAFETY (29CFR1910.119)

- Not applicable

* CERCLA Section 103 (40CFR302.4)

- Not applicable

* EPCRA Section 302 (40CFR355.30)

- Not applicable

* EPCRA Section 304 (40CFR355.40)

- Not applicable

* EPCRA Section 313 (40CFR372.65)

- Not applicable

○ Rotterdam Convention listed ingredients

- Not applicable

○ Stockholm Convention listed ingredients

- Not applicable

○ Montreal Protocol listed ingredients

- Not applicable

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

- 2025-11-28

C. Revision number and Last date revised

- 1 times, 2025-11-28

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).