

GHS Safety Data Sheet

PANAX ECO GREEN 500S

1. IDENTIFICATION

A. Product name

- PANAX ECO GREEN 500S

B. Recommended use and restriction on use

- General use : Not available
 - Restriction on use : Not available

C. Supplier information

- Company name : UKSEUNG CHEMICAL CO., LTD.
 - Address : 174, Gaejwa-ro, Geumjeong-gu, Busan, Korea
 - Telephone number : +82-51-718-5340, 5345

2. HAZARD IDENTIFICATION

A. GHS Classification

- Skin corrosion/irritation : Category2
 - Serious eye damage/irritation : Category2A

B. GHS label elements

o Hazard symbols



o Signal words

- Warning

o Hazard statements

- H315 Causes skin irritation
 - H319 Causes serious eye irritation

o Precautionary statements

1) Prevention

- P264 Wash hands thoroughly after handling.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.

2) Response

- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P321 Specific treatment
 - P332+P313 If skin irritation occurs: Get medical advice/attention.
 - P337+P313 If eye irritation persists: Get medical advice/attention.
 - P362 Take off contaminated clothing and wash before reuse.

3) Storage

- Not applicable

4) Disposal

- Not applicable

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

o NFPA grade (0 ~ 4 level)

- Health : 1, Flammability : 1, Reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
C.I. Pigment Yellow 74	-	6358-31-2	Trade Secret
C.I. Pigment Green 7	Polychloro copper phthalocyanine ; Copper phthalocyanine green ;	1328-53-6	Trade Secret
Titanium dioxide	Titanium oxide (TiO ₂) ; Titanium peroxide (TiO ₂) ; Dioxititanium ; Pigment white 6	13463-67-7	20 ~ 30
Diiron trioxide	Iron oxide (Fe ₂ O ₃) ; Anhydrous iron oxide ; Pigment red 101	1309-37-1	1 ~ 10

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.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- 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.
- Laundering enough contaminated clothing before reuse.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Wash thoroughly after handling.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.

D. Ingestion contact

- About whether I should induce vomiting Take the advice of a doctor.
- 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.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

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

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- Move containers from fire area, if you can do without the risk.
- Cool containers with water until well after fire is out.
- Do not access if the tank on fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Fine powder may cause ignition.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- Move container to safe area from the leak area.
- Handling the damaged containers or spilled material after wearing protective equipment.
- Avoid dust formation.
- Moist with water to prevent dust scattering.
- Avoid skin contact and inhalation.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Dust spills : Cover dust spills with plastic sheet or waterproof cloth to minimize spreading and avoid contact with water.
- Small liquid state spills: Appropriate container for disposal of spilled material collected.
- For disposal of spilled material in appropriate containers collected and clear surface.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Avoid contact with incompatible materials.
- Get the manual before use.
- Do not handle until all safety precautions have been read and understood.
- Operators should wear antistatic footwear and clothing.
- Minimize occurrence of dust and accumulation.

B. Conditions for safe storage, including any incompatibilities

- Check regularly for leaks.
- Avoid direct sunlight.
- Keep in the original container.
- No open fire.
- Prevent static electricity and keep away from combustible materials or heat sources.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- ACGIH TLV
 - [Titanium dioxide] : TWA 10 mg/m³
 - [Diiron trioxide] : TWA, 5 mg/m³, Respirable particulate mass
- OSHA PEL
 - [Diiron trioxide]: 10 mg/m³ (fume)
 - [Diiron trioxide]: 15 mg/m³ (Total dust), 5 mg/m³ (Respirable fraction)
 - [Titanium dioxide]: 15 mg/m³ (Total dust)

B. Engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

C. Individual protection measures, such as personal protective equipment

- Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Dust, mist, fume-purifying respiratory protection
- Any air-purifying respirator with a corpuscle filter of high efficiency
- Any respiratory protection with a electromotion fan(for dust, mist, fume-purifying)
- Self-contained breathing apparatus with a corpuscle filter of high efficiency
- 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.
- o **Eye protection**
 - Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
 - Provide an emergency eye wash station and quick drench shower in the immediate work area.
- o **Hand protection**
 - Wear appropriate glove.
- o **Skin protection**
 - Wear appropriate clothing.
- o **Others**
 - Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Solid
- Color	Green
B. Odor	Odorless
C. Odor threshold	Not available
D. pH	5 ~ 7
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
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	Insoluble
M. Vapour density	Not available
N. Specific gravity(Relative density)	3.5
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
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 : Accumulation of electrostatic charges, 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)**
 - Not available
- **(Oral)**
 - Not available
- **(Eye-Skin)**
 - Causes serious eye irritation
 - Causes skin irritation

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

- **Acute toxicity**
 - * **Oral - ATE MIX : 2000mg/kg~5000mg/kg**
 - [Titanium dioxide] : LD50 > 10000 mg/kg Rat
 - [C.I. pigment green 007] : LD50 > 3000 mg/kg Rat
 - [Diiron trioxide] : LD50 > 10000 mg/kg Rat
 - * **Dermal - ATE MIX : >5000mg/kg**
 - [Titanium dioxide] : LD50 > 10000 mg/kg Rabbit
 - * **Inhalation - ATE MIX : Not available**
 - Not available
- **Skin corrosion/irritation**
 - Causes skin irritation
- **Serious eye damage/irritation**
 - Causes serious eye irritation
- **Respiratory sensitization**
 - Not available
- **Skin sensitization**
 - Not available
- **Carcinogenicity**
 - * **IARC**
 - [Titanium dioxide] : Group 2B

(Scientists conclude that titanium dioxide will not cause lung cancer or chronic respiratory diseases in humans at concentrations experienced in the workplace.)
 - * **OSHA**
 - Not available
 - * **ACGIH**
 - [Titanium dioxide] : A4

(Scientists conclude that titanium dioxide will not cause lung cancer or chronic respiratory diseases in humans at concentrations experienced in the workplace.)
 - * **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**
 - [C.I. pigment green 007] : LC50 = 355.6 mg/l 96 hr *Salmo gairdneri*
- **Crustaceans**
 - [Titanium dioxide] : EC50 > 1000 mg/l 48 hr
 - [C.I. pigment green 007] : EC50 = 153.6 mg/l *Daphnia magna*
- **Algae**
 - [C.I. pigment yellow 074] : EC50 = 25.518 mg/l 96 hr

B. Persistence and degradability

- **Persistence**
 - [C.I. pigment yellow 074] : log Kow = 2.99
 - [C.I. pigment green 007] : log Kow = 17.4
 - [Diiron trioxide] : log Kow = 0.97 (Estimates)
- **Degradability**
 - Not available

C. Bioaccumulative potential

- **Bioaccumulative potential**
 - [C.I. pigment green 007] : BCF = 2.1
- **Biodegradation**
 - Not available

D. Mobility in soil

- Not available

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal

- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG)

- No classify information as UN recommendations on the transport of dangerous goods

B. Proper shipping name

- Not applicable

C. Hazard Class

- Not applicable

D. IMDG Packing group

- Not applicable

E. Marine pollutant

- Not available

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

- 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 applicable
- EmS SPILLAGE SCHEDULE : Not applicable

15. REGULATORY INFORMATION**A. National and/or international regulatory information**

- **POPs Management Law**
 - Not applicable
- **Information of EU Classification**
 - * **Classification**
 - Not applicable
 - * **Risk Phrases**
 - Not applicable
 - * **Safety Phrase**
 - Not applicable
- **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

- 2014-08-11

C. Revision number and Last date revised

- 2 times, 2015-06-15

D. Other

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