

SAFETY DATA SHEET



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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name/designation : SGI- KHAKI 330

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

- Water-soluble stationary ink

1.2.2. Uses advised against

- Not available

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier : YOU&I COPORATION
Address : 53, EMTIBEUI 26-RO, SIHEUNG-SI, GYEONGGI-DO, KOREA (ZIP CODE) 15118
Telephone : 82-31-494-2030
Email : tech@youicolor.com

1.4. Emergency telephone number

82-31-494-2030 (This number is serviced during office hours only.)
EU-wide emergency number : 112
See section 16.6 for the list of telephone number of poison centers in the European Economic Area.

SECTION 2: HAZARD IDENTIFICATION

A. GHS CLASSIFICATION

- Skin corrosion/irritation : Category3
- Serious eye damage/irritation : Category2A
- Carcinogenicity : Category2
- Specific target organ toxicity(Repeated exposure) : Category2
- Chronic aquatic toxicity : Category2

B. GHS LABEL ELEMENTS

○ Hazard symbols



○ Signal words

- Warning

○ Hazard statements

- H316 Cause mild skin irritation.
- H319 Causes serious eye irritation
- H351 Suspected of causing cancer
- H373 May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
- H411 Toxic to aquatic life with long lasting effects

○ Precautionary statements

1) Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P273 Avoid release to the environment.

- P280 Wear protective gloves/protective clothing/eye protection/face protection.

2) Response

- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P314 Get medical advice/attention if you feel unwell.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P391 Collect spillage.

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 : (NFPA Classification), (HMIS Classification)**○ NFPA grade (0 ~ 4 level)**

- Health : 2, Flammability : 1, Reactivity : 0

○ HMIS ratings (0 ~ 4 level)

- Health : 2, Flammability : 1, Reactivity : 0

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Name	Trade names and Synonyms	CAS No.	% [weight]
WATER	Not applicable	7732-18-5	40~60
GLYCERINE	Not applicable	56-81-5	15~20
ALUMINIUM POWDER	Not applicable	7429-90-5	3~7
POLY ETHYLENE GLYCOL	Not applicable	25322-68-3	10~15
C.I. PIGMENT BLUE 15:3	Not applicable	205-685-1	0~5
C.I. PIGMENT YELLOW 83	Not applicable	5567-15-7	0~5
2-AMINO-2-METHYL-1-PROPANOL	Not applicable	124-68-5	0~1

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.
- 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.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- 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.
- Get medical attention 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.
- If exposed or concerned, get medical attention/advice.

5. FIREFIGHTING MEASURES**A. Suitable (Unsuitable) extinguishing media**

- Water, foam, CO₂, NaHCO₃
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- Notify your local fire station and inform the location of the fire and characteristics hazard.
- Avoid inhalation of materials or combustion by-products.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.

6. ACCIDENTAL RELEASE MEASURES**A. Personal precautions, protective equipment and emergency procedures**

- Wear proper personal protective apparatus as indicated in Section 8 and avoid skin contact and inhalation.
- Must work against the wind, let the upwind people to evacuate.
- Move container to safe area from the leak area.
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.
- Cleanup and disposal under expert supervision is advised.
- Keep unauthorized people away, isolate hazard area and deny entry.

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.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.
- Prevent the influx to waterways, sewers, basements or confined spaces.

D. PACs (Protective Action Criteria)

- o **PAC-1**
 - [POLY ETHYLENE GLYCOL] : 30 mg/m³
 - [2-AMINO-2-METHYL-1-PROPANOL] : 17 mg/m³
- o **PAC-2**
 - [POLY ETHYLENE GLYCOL] : 1,300 mg/m³
 - [2-AMINO-2-METHYL-1-PROPANOL] : 190 mg/m³
- o **PAC-3**
 - [POLY ETHYLENE GLYCOL] : 7,700 mg/m³
 - [2-AMINO-2-METHYL-1-PROPANOL] : 570 mg/m³

7. HANDLING AND STORAGE**A. Precautions for safe handling**

- Avoid direct physical contact.
- Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.
- Avoid contact with incompatible materials.
- Get the manual before use.
- Do not inhale the steam prolonged or repeated.
- Contaminated work clothing should not be allowed out of the workplace.

B. Conditions for safe storage, including any incompatibilities

- Do not apply any physical shock to container.
- Avoid direct sunlight.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- Keep sealed when not in use.
- By specifying a storage area for carcinogenic substances.
- Collected them in sealed containers.
- Store away from water and sewer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**A. Exposure limits**

- **ACGIH TLV**
 - [ALUMINIUM POWDER] : TWA, 1 mg/m³, Respirable Particulate Matter
- **OSHA PEL**
 - [ALUMINIUM POWDER]: 15 mg/m³ (Total dust), 5 mg/m³ (Respirable fraction)

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**
 - 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.
 - Any chemical cartridge respirator with organic vapor cartridge(s).
 - Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
 - Any air-purifying respirator with a full facepiece and an organic vapor canister.
 - 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.
- **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.
- **Hand protection**
 - Wear appropriate glove.
- **Skin protection**
 - Wear appropriate clothing.
- **Others**
 - Not available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Appearance(State)	Liquid
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Appearance(Color)	KHAKI
Odor	Odorless
Odor threshold	Not available
pH	8.0 ± 1.0
Melting point/Freezing point	Not available
Initial boiling point and boiling range	> 100 °C
Flash point	300 °C
Evaporation rate	Not available
Flammability(solid, gas)	Not applicable
Upper/Lower Flammability or explosive	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	1.1 ± 0.05 g/cm3
Solubility	Fully miscible
Partition coefficient of n-octanol/water	Not available
Autoignition temperature	No self-igniting
Decomposition temperature	Not available
Viscosity	650 ± 150 Cps
Explosive properties	Not explosive
Oxidizing properties	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)

- Cause mild skin irritation.
- Causes serious eye irritation

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

○ Acute toxicity

* Oral

- Product (ATEmix) : >5,000mg/kg
- [WATER] : LD50 > 90,000 mg/kg Rat (KOSHA)
- [POLY ETHYLENE GLYCOL] : LD50 = 600 mg/kg Rat (NLM: ChemIDPlus)
- [C.I.PIGMENT YELLOW 83] : LD50 > 5,000 mg/kg Rat (IUCLID; THOMSON)
- [C.I. PIGMENT BLUE 15:3] : LD50 > 6,400 mg/kg Rat (IUCLID)

- [ALUMINIUM POWDER] : LD50 > 15,900 mg/kg Rat (OECD TG 401)
- [2-AMINO-2-METHYL-1-PROPANOL] : LD50 = 2,900 mg/kg Rat (NITE)
- * **Dermal**
 - Product (ATEmix) : >5,000mg/kg
 - [C.I. PIGMENT BLUE 15:3] : LD50 >5,000 mg/kg Rabbit (OECD TG 402)
 - [2-AMINO-2-METHYL-1-PROPANOL] : LD50 > 2,000 mg/kg Rabbit (IUCLID)
- * **Inhalation**
 - Product (ATEmix) : Not available
 - [ALUMINIUM POWDER] : Dust LC50 > 0.888 mg/L 4 hr Rat (OECD TG 403, GLP)
- ☐ **Skin corrosion/irritation**
 - Cause mild skin irritation.
- ☐ **Serious eye damage/irritation**
 - Causes serious eye irritation
- ☐ **Respiratory sensitization**
 - Not available
- ☐ **Skin sensitization**
 - Not available
- ☐ **Carcinogenicity**
 - * **IARC**
 - Not available
 - * **OSHA**
 - Not available
 - * **ACGIH**
 - [ALUMINIUM POWDER] : 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**
 - May cause damage to organs through prolonged or repeated exposure
- ☐ **Aspiration hazard**
 - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- ☐ **Fish**
 - [POLY ETHYLENE GLYCOL] : LC50 >20,000 mg/L 96 hr Oncorhynchus mykiss (ECOTOX)
 - [C.I.PIGMENT YELLOW 83] : LC50 = 45 mg/L 48 hr Oncorhynchus mykiss (ECOTOX)
 - [C.I. PIGMENT BLUE 15:3] : LC50 = 100 ~ 355.6 mg/L 96 hr (ECHA)
- ☐ **Crustaceans**
 - [ALUMINIUM POWDER] : NOEC > 100 mg/L 48 hr Daphnia magna (IUCLID)
- ☐ **Algae**
 - [ALUMINIUM POWDER] : NOEC ≥ 0.052 mg/L 72 hr Selenastrum capricornutum (OECD TG 201, GLP)

B. Persistence and degradability

- ☐ **Persistence**
 - [WATER] : log Kow -1.38
 - [C.I. PIGMENT BLUE 15:3] : log Kow 6.60 (Estimate)
 - [C.I.PIGMENT YELLOW 83] : log Kow 7.54 (IUCLID)
- ☐ **Degradability**

- [C.I.PIGMENT YELLOW 83] : log Kow 7.54 (IUCLID)
- [2-AMINO-2-METHYL-1-PROPANOL] : BOD5/COD = 0.005

C. Bioaccumulative potential**○ Bioaccumulative potential**

- [2-AMINO-2-METHYL-1-PROPANOL] : BCF 1 ~ 3 (Leuciscus idus(Fish, fresh water), 50ug/l)
- [C.I.PIGMENT YELLOW 83] : BCF 10 (Estimate)
- [C.I. PIGMENT BLUE 15:3] : BCF 0.33 ~ 11 (OECD 305C, IUCLID)

○ Biodegradation

- [C.I. PIGMENT BLUE 15:3] : Biodegradability = 1 (%) 28 day (IUCLID), water solubility : 4~9 ug/L (ECHA)
- [C.I.PIGMENT YELLOW 83] : Biodegradability = 6 (%) 28 day (Non-biodegradability) (NITE)
- [2-AMINO-2-METHYL-1-PROPANOL] : Biodegradability = 40 (%) 28 day (NITE)

D. Mobility in soil

- Not available

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS**A. Disposal methods**

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, 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 dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION**A. UN No. (IMDG CODE/IATA DGR)**

- 3082

B. Proper shipping name

- ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.

C. Hazard Class

- 9

D. IMDG CODE/IATA DGR Packing group

- III

E. Marine pollutant

- Applicable

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 : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-F (Water-soluble marine pollutants)

15. REGULATORY INFORMATION

A. National and/or international regulatory information

- **POPs Management Law**
 - Not applicable
- **Information of EU Classification**
 - * **Classification**
 - [ALUMINIUM POWDER] : H261, H250, H228
 - [2-AMINO-2-METHYL-1-PROPANOL] : H319, H315, H412
- **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)**
 - [ALUMINIUM POWDER] : 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

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