

SAFETY DATA SHEET



COLOR E90 WHITE INK

Version 2.0
Document no. 130000150930

Revision Date 01.04.2020
Issue Date 01.04.2020

This SDS adheres to the standards and regulatory requirements of Vietnam and may not meet the regulatory requirements in other countries.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : COLOR E90 WHITE INK

Registration number : Not applicable

Recommended use of the chemical and restriction on use

Recommended use : Printing ink

Restrictions on use : Do not use product for anything outside of the above specified uses.

Manufacturer, importer, supplier, representative office

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2. HAZARDS IDENTIFICATION

Product hazard classification

Specific target organ toxicity - repeated exposure : Category 2 (Kidney)

Short-term (acute) aquatic hazard : Category 3

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

Label content

Pictogram :



Signal word : Warning

Hazardous warnings : May cause damage to organs through prolonged or repeated exposure. (Kidney)
Harmful to aquatic life.

Precautionary statements : Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Avoid release to the environment.
Get medical advice/ attention if you feel unwell.
Dispose of contents/ container to an approved waste disposal plant.

**COLOR E90 WHITE INK**Version 2.0
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Chemical name	CAS-No.	Concentration
Ethane-1,2-diol	107-21-1	10 - 15%
Titanium dioxide		10 - 20%
Antimicrobial agents		<0.1%
Non regulated ingredients		>=65%

4. FIRST AID MEASURES

Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.

First aid measures for different exposure routes

- Inhalation** : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If breathing is irregular or stopped, administer artificial respiration. Get medical attention.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before re-use.
- Eye contact** : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical advice/attention.
- Ingestion** : If swallowed, call a poison control centre or doctor immediately. Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center.
- Most important symptoms/effects, acute and delayed** : No information available.
- Protection of first-aiders** : No information available.
- Notes to physician** : No specific intervention is indicated. Treat symptomatically.

5. FIREFIGHTING MEASURES

- Suitable extinguishing media** : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray, Dry chemical, Carbon dioxide (CO₂)
- Specific hazards** : Hazardous decomposition products formed under fire conditions. (see also section 10) Avoid breathing decomposition products.

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- Special protective equipment for firefighters** : Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus for firefighting if necessary.
- Specific extinguishing methods** : No information available.
- Further information** : Evacuate personnel to safe areas. Stop spill/release if it can be done with minimal risk. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures** : Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Wear suitable protective equipment.
- Environmental precautions** : Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Clean contaminated floors and objects thoroughly while observing environmental regulations.
- Methods and materials for containment and cleaning up** : Contain spill. Soak up with inert absorbent material. Collect and contain contaminated absorbent and dike material for disposal. Keep in suitable, closed containers for disposal. Ventilate the area. Clean contaminated floors and objects thoroughly while observing environmental regulations.
- Additional advice** : Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Handling

- Technical measures/Precautions** : Avoid inhalation, ingestion and contact with skin and eyes. Do not use in areas without adequate ventilation. For personal protection see section "Exposure controls/personal protection"
- Precautions for safe handling** : Normal measures for preventive fire protection.

Storage

- Suitable storage conditions** : Keep containers tightly closed in a cool, well-ventilated place. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Do not reuse empty container.
- Storage period: Stable under normal conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Applicable occupational exposure limits are listed below.

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Ethane-1,2-diol		
TWA	60 mg/m3 (Vapour)	VN OEL (2002-10-10)
TWA	10 mg/m3 (aersols, mist)	VN OEL (2002-10-10)
STEL	125 mg/m3 (Vapour)	VN OEL (2002-10-10)
STEL	20 mg/m3 (aersols, mist)	VN OEL (2002-10-10)
TWA	25 ppm (Vapour)	ACGIH (2018-03-20)
STEL	50 ppm (Vapour)	ACGIH (2018-03-20)
STEL	10 mg/m3 (Inhalable fraction, Aerosol only)	ACGIH (2018-03-20)
Titanium dioxide		
TWA	5 mg/m3 (Respirable dust)	VN OEL (2002-10-10)
TWA	6 mg/m3 (inhalable dust)	VN OEL (2002-10-10)
STEL	10 mg/m3 (inhalable dust)	VN OEL (2002-10-10)
TWA (Titanium dioxide)	10 mg/m3	ACGIH (2014-03-01)

Engineering measures : Ensure adequate ventilation. Maintain air concentrations below occupational exposure standards. General mechanical ventilation is normally adequate but use local exhaust where necessary to maintain exposures below acceptable limits.

Biological occupational exposure limits : No information available.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.

Hand protection : Material: Impervious gloves
Gloves must be inspected prior to use., Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough., The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other., The exact break through time can be obtained from the protective glove producer and this has to be observed., Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection : Wear safety glasses or coverall chemical splash goggles.

Skin protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., Lightweight protective clothing and safety shoes are recommended.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Use with adequate ventilation. Keep container closed. Keep away from food and drink. Wash hands before eating, drinking, or smoking. Remove contaminated clothing and protective equipment before entering eating areas. Wash contaminated clothing before re-use.

COLOR E90 WHITE INKVersion 2.0
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Form : liquid
Colour : white**Odour** : not significant**Odour Threshold** : No information available.**pH** : 6 - 9**Melting point/freezing point**

Freezing point : -13 °C

Initial boiling point and boiling range

Boiling point : 100 °C

Flash point : 100 °C**Evaporation rate** : No information available.**Flammability (solid, gas)** : No information available.**Upper/lower flammability or explosive limits**Upper explosion limit : No information available.
Lower explosion limit : No information available.**Vapour pressure** : No information available.**Vapour density** : No information available.**Density**Specific gravity : 1.12
(Relative density)**Solubility(ies)**

Water solubility : soluble

Partition coefficient: n-octanol/water : No information available.**Auto-ignition temperature**

Ignition temperature : 401 °C

Decomposition temperature : No information available.**Viscosity**

Viscosity, kinematic : No information available.

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Molecular weight : No information available.

Oxidizing properties : No information available.

10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : The product is chemically stable under recommended conditions of storage, use and temperature.
Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions : None reasonably foreseeable.

Conditions to avoid : Avoid extreme heat. Do not freeze.

Materials to avoid : Acids, bases and strong oxidizing agents

Hazardous decomposition products : No decomposition if stored and applied as directed.

Under fire conditions:, Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral

Ethane-1,2-diol : LD50/Cat: 1,650 mg/kg
Titanium dioxide : LD50/Rat: > 5,000 mg/kg
Method: OECD Test Guideline 425
The substance or mixture has no acute oral toxicity
Antimicrobial agents : LD50/Rat: 670 mg/kg
Central nervous system effects

Inhalation

Ethane-1,2-diol : no data available
Toxic effects cannot be excluded
Titanium dioxide : LC50/4 h/Rat(dust/mist): > 6.82 mg/l
Antimicrobial agents : Toxic effects cannot be excluded

Dermal

Ethane-1,2-diol : LD50/Mouse: > 3,500 mg/kg
The substance or mixture has no acute dermal toxicity
Titanium dioxide : LD50/Rabbit: > 10,000 mg/kg
Antimicrobial agents : LD50/Rabbit: > 2,000 mg/kg
The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Ethane-1,2-diol : Species: Rabbit
Result: No skin irritation
Classification: Not classified as irritant
Titanium dioxide : Species: Rabbit
Result: No skin irritation

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Antimicrobial agents	:	Classification: Not classified as irritant Method: OECD Test Guideline 404 Species: Rabbit Result: Skin irritation Classification: Irritating to skin. Information given is based on data obtained from similar substances.
Serious eye damage/eye irritation		
Ethane-1,2-diol	:	Species: Rabbit Result: No eye irritation Classification: Not classified as irritant
Titanium dioxide	:	Species: Rabbit Result: No eye irritation Classification: Not classified as irritant
Antimicrobial agents	:	Method: OECD Test Guideline 405 Species: Rabbit Result: Severe eye irritation Classification: Risk of serious damage to eyes. Information given is based on data obtained from similar substances.
Respiratory or skin sensitisation		
Ethane-1,2-diol	:	Species: human Result: Does not cause skin sensitisation. Classification: Does not cause skin sensitisation.
Titanium dioxide	:	Species: Guinea pig Result: Does not cause skin sensitisation. Classification: Does not cause skin sensitisation. Method: OECD Test Guideline 406
Antimicrobial agents	:	Species: Mouse Result: Does not cause respiratory sensitisation. Classification: Does not cause respiratory sensitisation. Local lymph node test Species: Mouse Result: Causes sensitisation. Classification: May cause sensitisation by skin contact. Species: human Result: Positive in human patch test. Classification: May cause sensitisation by skin contact.
Germ cell mutagenicity		
Ethane-1,2-diol	:	Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Titanium dioxide	:	Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Antimicrobial agents	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
Carcinogenicity		
Ethane-1,2-diol	:	Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.

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- Titanium dioxide : Not classifiable as a human carcinogen.
Overall weight of evidence indicates that the substance is not carcinogenic.
- Reproductive toxicity**
- Ethane-1,2-diol : Reproductive toxicity: No toxicity to reproduction
No effects on or via lactation
Animal testing showed no reproductive toxicity.
Teratogenicity: Evidence suggests the substance is not a developmental toxin in animals.
- Titanium dioxide : Reproductive toxicity: Animal testing showed no reproductive toxicity.
Teratogenicity: Animal testing showed no developmental toxicity.
- Antimicrobial agents : Reproductive toxicity: No toxicity to reproduction
Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.
Teratogenicity: Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
- Specific Target Organ Toxicity**
- Specific target organ toxicity - single exposure
- Ethane-1,2-diol : Target Organs: Central nervous system
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
- Titanium dioxide : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- Specific target organ toxicity - repeated exposure
- Ethane-1,2-diol : Target Organs: Kidney
The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
- Titanium dioxide : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Antimicrobial agents : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Aspiration hazard**
- Titanium dioxide : No aspiration toxicity classification
- Antimicrobial agents : No aspiration toxicity classification
- Other**
- COLOR E90 WHITE INK : No data is available on the product itself.
Information given is based on data on the components.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

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Acute and prolonged toxicity to fish

Ethane-1,2-diol : LC50/96 h/Pimephales promelas (fathead minnow): 72,860 mg/l
Titanium dioxide : LC50/96 h/Pimephales promelas (fathead minnow): > 1,000 mg/l
Antimicrobial agents : LC50/96 h/Oncorhynchus mykiss (rainbow trout): 1.6 mg/l

Toxicity to aquatic plants

Ethane-1,2-diol : ErC50/96 h/Pseudokirchneriella subcapitata (green algae): 6,500 mg/l
Titanium dioxide : ErC50/72 h/Pseudokirchneriella subcapitata (green algae): > 100 mg/l
Method: see user defined free text
NOEC/72 h/Algae: 5,600 mg/l
Method: see user defined free text
Antimicrobial agents : EC50/72 h/Algae: 0.15 mg/l

Acute toxicity to aquatic invertebrates

Ethane-1,2-diol : EC50/48 h/Daphnia magna (Water flea): > 100 mg/l
Method: OECD Test Guideline 202
Titanium dioxide : EC50/48 h/Daphnia magna (Water flea): > 100 mg/l
Method: OECD Test Guideline 202
Antimicrobial agents : EC50/48 h/Aquatic invertebrates: 0.047 mg/l

Persistence and degradability

Ethane-1,2-diol : Exposure time: 10 d
Biodegradation: 90 - 100 %
Result: Readily biodegradable.
Antimicrobial agents : Result: Readily biodegradable.

Bioaccumulation

Ethane-1,2-diol : Bioaccumulation is unlikely.
Antimicrobial agents : Bioaccumulation is unlikely.

Mobility in soil

No information available.

Other adverse effects

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13. DISPOSAL CONSIDERATIONS

Waste disposal methods : If recycling is not practicable, dispose of in compliance with local regulations. Never place unused product down any indoor or out door drain. Do not reuse empty container. Contaminated/not cleaned containers should be treated/handled like product waste. Dispose of container properly. Refer to applicable Local, State/Provincial, and Federal Regulations, as well as industry Standards.

Contaminated packaging : Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

Vietnam. Decree No. 104/2009/ND-CP and Decree No. 29/2005/ND-CP

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UN number : Not applicable
UN proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable

IMDG

UN number : Not applicable
UN proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable
Marine pollutant : Not applicable

IATA

UN number : Not applicable
UN proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable

Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises : Not applicable

15. REGULATORY INFORMATION

Vietnam. Labor hygiene standards: Ministry of Health (Decision No. 3733/2002/QĐ-BYT).

Regulations in other countries

No information available.

16. OTHER INFORMATION

References

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