

**ARTISTRI™ P5300+ YELLOW PIGMENT INK**

Version 2.1

Revision Date 11/10/2014

Ref. 130000129230

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

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ARTISTRI™ P5300+ YELLOW PIGMENT INK
MSDS Number : 130000129230

Manufacturer : DuPont
1007 Market Street
Wilmington, DE 19898

Product Information : 1-302-774-1000
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects

Skin : May cause skin irritation. Discomfort, itching, redness, or swelling.

Eyes : May cause eye irritation. Tearing, redness, or discomfort.

Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Repeated exposure : Adverse effects from repeated exposure may include:, Kidney effects
Adverse effects from repeated ingestion may include:, Kidney effects,
Bladder stones

Target Organ : Kidney

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

Ethane-1,2-diol : DuPont has classified this material as a probable human carcinogen.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Ethane-1,2-diol	107-21-1	<20 %
Alkyl ether		<10 %
Pigments		<10 %
Cyclic amide		<10 %
Non regulated ingredients		>50%

Any component not specifically identified is considered a trade secret. Properties and potential hazards of any trade secret component are included in this safety data sheet.

SECTION 4. FIRST AID MEASURES

- Skin contact : Wash off immediately with plenty of water. Wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact : Immediately flush eye(s) with plenty of water. Seek medical advice.
- Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
- Ingestion : Is not considered a potential route of exposure. If swallowed Do NOT induce vomiting. Call a physician or poison control centre immediately.

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SECTION 5. FIREFIGHTING MEASURES

Flammable Properties

Flash point : 93 °C (199 °F)

Ignition temperature : 401 °C (754 °F)

Lower explosion limit/ lower flammability limit : 3.2 vol%

Upper explosion limit/ upper flammability limit : 15.3 vol%

Fire and Explosion Hazard : Hazardous decomposition products formed under fire conditions. (see also section 10) Avoid breathing decomposition products.

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Water spray, Dry chemical, Carbon dioxide (CO₂)

Firefighting Instructions : Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus for firefighting if necessary. 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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Wear suitable protective equipment.

Spill Cleanup : 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



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surface thoroughly.

Accidental Release Measures : 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. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Avoid breathing vapours or mist. Keep away from heat and flame. Do not use in areas without adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Contaminated work clothing should not be allowed out of the workplace. Remove contaminated clothing and protective equipment before entering eating areas. Remove and wash contaminated clothing before re-use.

Handling (Physical Aspects) : Keep away from heat and sources of ignition. Avoid formation of aerosol.

Storage : Store at room temperature in the original container. Keep away from sources of ignition - No smoking. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Keep container closed when not in use. Do not reuse empty container. Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Local exhaust or a laboratory hood should be used when handling the materials. Maintain air concentrations below occupational exposure standards.

Personal protective equipment
Respiratory protection : Provide adequate ventilation. No personal respiratory protective equipment normally required. Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge. 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.


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Hand protection : Material: Impervious gloves
 Additional protection: 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 with side shields.

Skin and body 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
 Safety shoes

 Exposure Guidelines
 Exposure Limit Values

Ethane-1,2-diol				
TLV	(ACGIH)	100 mg/m ³	TLV-C	Aerosol.
AEL *	(DUPONT)	10 mg/m ³	8 & 12 hr. TWA	Particulate.
AEL *	(DUPONT)	50 ppm	8 & 12 hr. TWA	Vapor.
Alkyl ether				
AEL *	(DUPONT)	10 mg/m ³	8 & 12 hr. TWA	Aerosol.
AEL *	(DUPONT)	100 ppm	8 & 12 hr. TWA	Vapor.
Cyclic amide				
AEL *	(DUPONT)	5 ppm	8 & 12 hr. TWA	

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* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: liquid
Color	: no data available
Odor	: not significant
pH	: 7 - 9
Freezing point	: -13 °C (9 °F)
Boiling point	: 100 °C (212 °F)
Vapour Pressure	: 0.5 hPa
Specific gravity	: 1.04
Water solubility	: soluble
Evaporation rate	: Slower than Ether

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	: None reasonably foreseeable.
Incompatibility	: None reasonably foreseeable.
Hazardous decomposition products	: no data available:
Hazardous reactions	: None reasonably foreseeable.

SECTION 11. TOXICOLOGICAL INFORMATION

Ethane-1,2-diol	
Dermal LD50	: > 3,500 mg/kg , Mouse
Oral LD50	: 1,650 mg/kg , Cat
Skin irritation	: No skin irritation, Rabbit
Eye irritation	: No eye irritation, Rabbit
Skin sensitization	: Does not cause skin sensitisation., human


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Repeated dose toxicity	:	Oral Rat
		Target Organs: Kidney Kidney damage
Carcinogenicity	:	Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
Mutagenicity	:	Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
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.
Alkyl ether		
Dermal LD50	:	13,300 mg/kg , Rabbit
Oral LD50	:	20,760 mg/kg , Rat
Inhalation 4 h LC50	:	> 48.1 mg/l , Rat
Inhalation 4 h Acute toxicity estimate	:	> 5 mg/l , Rat
Skin irritation	:	slight irritation, Rabbit
Eye irritation	:	slight irritation, Rabbit
Skin sensitization	:	Did not cause sensitisation on laboratory animals., Guinea pig Patch test on human volunteers did not demonstrate sensitisation properties., human
Repeated dose toxicity	:	Oral multiple species Oxylate crystal deposition
Carcinogenicity	:	Not classifiable as a human carcinogen.



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Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Animal testing did not show any mutagenic effects.

Reproductive toxicity : No toxicity to reproduction
Animal testing showed no reproductive toxicity.

Teratogenicity : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Cyclic amide

Dermal LD50 : > 2,000 mg/kg , Rat

Oral LD50 : 8,000 mg/kg , Rat

Inhalation : Rat
An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Skin irritation : No skin irritation, Rabbit

Eye irritation : Eye irritation, Rabbit

Skin sensitization : Does not cause skin sensitisation., Mouse
Information given is based on data obtained from similar substances.

Repeated dose toxicity : Oral
Rat

Kidney effects

Mutagenicity : Animal testing did not show any mutagenic effects.
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity : No toxicity to reproduction
Animal testing showed no reproductive toxicity.

Teratogenicity : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.


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SECTION 12. ECOLOGICAL INFORMATION
Aquatic Toxicity
Ethane-1,2-diol

- 96 h LC50 : Pimephales promelas (fathead minnow) 72,860 mg/l
- 96 h ErC50 : Pseudokirchneriella subcapitata (green algae) 6,500 mg/l
- 48 h EC50 : Daphnia magna (Water flea) > 100 mg/l OECD Test Guideline 202

Alkyl ether

- 96 h LC50 : Pimephales promelas (fathead minnow) 75,200 mg/l
- 48 h LC50 : Leuciscus idus (Golden orfe) > 10,000 mg/l
- 24 h EC50 : Daphnia magna (Water flea) > 10,000 mg/l

Cyclic amide

- 72 h ErC50 : Desmodesmus subspicatus (green algae) > 500 mg/l
- 48 h EC50 : Daphnia magna (Water flea) > 500 mg/l Directive 67/548/EEC, Annex V, C.2.

Environmental Fate
Ethane-1,2-diol

- Biodegradability : Readily biodegradable. 90 - 100 % OECD Test Guideline 301
- Bioaccumulation : Bioaccumulation is unlikely.

Alkyl ether

- Biodegradability : 90 %
Readily biodegradable.
- Bioaccumulation : Bioconcentration factor (BCF) : 10 - 180
Bioaccumulation is unlikely.

Cyclic amide

- Biodegradability : Biodegradable
Readily biodegradable.
- Bioaccumulation : Bioaccumulation is unlikely.



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SECTION 13. DISPOSAL CONSIDERATIONS

- Waste Disposal : If recycling is not practicable, dispose of in compliance with local regulations. Never place unused product down any indoor or out door drain.
- Container Disposal : 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.

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

- TSCA : On the inventory, or in compliance with the inventory
- SARA 313 Regulated Chemical(s) : Ethane-1,2-diol
- CERCLA Reportable Quantity : 25 lbs
Based on the percentage composition of this chemical in the product.: Pigments
- California Prop. 65 : WARNING! This product contains a chemical or chemicals known to the State of California to cause cancer.
- PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Ethane-1,2-diol, Pigments, Alkyl ether



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NJ Right to Know
Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Ethane-1,2-diol

SECTION 16. OTHER INFORMATION

The DuPont Oval Logo is a registered trademark of E.I. du Pont de Nemours and Company.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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