NAZDAR
INK TECHNOLOGIES

SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product code **4711**

Product name **Lemon Yellow**

Product category **4700 Series Water-Based Screen Ink**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Industrial Printing Operations

Details of the supplier of the safety data sheet

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24 Hour Emergency Phone Number

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1 - (H317)
Chronic aquatic toxicity	Category 2 - (H411)

Label elements

Signal word
Warning

Hazard statements
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves and eye/face protection
P337 + P313 - If eye irritation persists: Get medical advice/attention

Hazards not otherwise classified (HNOC)
Toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	CAS No.	Weight-%	Trade secret	Note
Dipropylene glycol monomethyl ether	34590-94-8	1 - 5	*	
Titanium Dioxide	13463-67-7	1 - 5	*	
2-(Dimethylamino)ethanol	108-01-0	1 - 5	*	
Additive	Not Available	0.1 - < 1	*	
Nonylphenol, branched, ethoxylated	68412-54-4	0.1 - < 1	*	
Isononylphenol, ethoxylated	37205-87-1	0.1 - < 1	*	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Description of first aid measures

General Advice Show this safety data sheet to the doctor in attendance.
Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.
Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.
Inhalation Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed
None under normal use conditions.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Foam. Carbon dioxide (CO2). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
No information available.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of the reach of children. Do not freeze.

Incompatible Products Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Chemical name	ACGIH TLV
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 50 ppm
Titanium Dioxide 13463-67-7	TWA: 0.2 mg/m³ nanoscale respirable particulate matter TWA: 2.5 mg/m³ finescale respirable particulate matter

Chemical name	OSHA PEL
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 100 ppm TWA: 600 mg/m³ Skin
Titanium Dioxide 13463-67-7	TWA: 15 mg/m³ total dust

Chemical name	OSHA PEL (vacated)
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 100 ppm TWA: 600 mg/m³ STEL: 150 ppm STEL: 900 mg/m³ Skin
Titanium Dioxide	TWA: 10 mg/m³ total dust

13463-67-7	

Chemical name	**Ontario TWAEV**
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 100 ppm STEL: 150 ppm Skin
Titanium Dioxide 13463-67-7	TWA: 10 mg/m^3
2-(Dimethylamino)ethanol 108-01-0	TWA: 3 ppm TWA: 11 mg/m^3 STEL: 6 ppm STEL: 22 mg/m^3

Chemical name	**Mexico OEL (TWA)**
Dipropylene glycol monomethyl ether 34590-94-8	TWA/VLE-PPT: 100 ppm STEL/PPT-CT: 150 ppm
Titanium Dioxide 13463-67-7	TWA/VLE-PPT: 10 mg/m^3

Appropriate engineering controls

Engineering Measures Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles). If splashes are likely to occur:. Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin Protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hand Protection Chemical resistant protective gloves.
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding >480 minutes of permeation time): eg. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers. Taking into account the varying conditions, the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Due to different glove types, the manufacturer's directions for use should be observed. Replace gloves immediately when torn or any change in appearance is noticed such as dimension, color, flexibility.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	**Appearance**	Colored
Odor	No information available	**Odor Threshold**	No information available

Property	**Values**	**Remarks • Method**
pH		No data available
Melting Point / Freezing Point	No information available	No data available
Boiling Point / Boiling Range	> 100 °C / 212 °F	
Flash Point	> 94 °C / > 201 °F	Setaflash closed cup
Evaporation rate		No data available
Flammability Limit in Air		
Upper flammability limit		No data available
Lower flammability limit		No data available
Vapor Pressure		No data available
Vapor Density		No data available
Specific Gravity	1.07	
Water Solubility		No data available
Solubility in other solvents		No data available
Partition coefficient: n-octanol/water		No data available
Autoignition Temperature	No information available	No data available
Hyphen		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available

Explosive Properties	No data available
Oxidizing Properties	No data available

Other information

Photochemically Reactive	No
Weight Per Gallon (lbs/gal)	8.89

VOC by weight % (less water)	**VOC by volume % (less water)**	**VOC lbs/gal (less water)**	**VOC grams/liter (less water)**
19.29	No information available	1.72	205.59
Volatile by weight % (including Water)	**Water by weight %**		
60.19	51.5		

10. STABILITY AND REACTIVITY

Reactivity
No information available.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
Keep away from open flames, hot surfaces and sources of ignition. Do not freeze.

Incompatible materials
Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO2). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Specific test data for the substance or mixture is not available.
Eye Contact Specific test data for the substance or mixture is not available.
Skin Contact Specific test data for the substance or mixture is not available.
Ingestion Specific test data for the substance or mixture is not available.

Chemical name	Oral LD50
Dipropylene glycol monomethyl ether 34590-94-8	= 5.35 g/kg (Rat)
Titanium Dioxide 13463-67-7	> 10000 mg/kg (Rat)
2-(Dimethylamino)ethanol 108-01-0	= 1803 mg/kg (Rat)
Additive	= 1470 mg/kg (Rat)
Isononylphenol, ethoxylated 37205-87-1	= 2590 mg/kg (Rat)

Chemical name	Dermal LD50
Dipropylene glycol monomethyl ether 34590-94-8	= 9500 mg/kg (Rabbit)
2-(Dimethylamino)ethanol 108-01-0	= 1220 mg/kg (Rabbit)
Additive	> 2000 mg/kg (Rat)
Isononylphenol, ethoxylated 37205-87-1	= 2830 mg/kg (Rabbit)

Chemical name	Inhalation LC50
Titanium Dioxide 13463-67-7	= 5.09 mg/L (Rat) 4 h
2-(Dimethylamino)ethanol 108-01-0	= 1641 ppm (Rat) 4 h
Additive	= 0.67 mg/L (Rat) 4 h = 0.99 mg/L (Rat) 4 h = 0.63 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Specific test data for the substance or mixture is not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Specific test data for the substance or mixture is not available. Causes skin irritation (pain, redness and swelling). (based on components).
Eye damage/irritation Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).
Irritation Specific test data for the substance or mixture is not available.
Corrosivity Specific test data for the substance or mixture is not available.
Sensitization Specific test data for the substance or mixture is not available. May cause an allergic skin reaction. (based on components).
Mutagenic Effects Specific test data for the substance or mixture is not available.
Carcinogenic effects Specific test data for the substance or mixture is not available.
Reproductive Effects Specific test data for the substance or mixture is not available.
STOT - single exposure Specific test data for the substance or mixture is not available.
STOT - repeated exposure Specific test data for the substance or mixture is not available.
Chronic Toxicity Specific test data for the substance or mixture is not available
Aspiration hazard Specific test data for the substance or mixture is not available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH
Titanium Dioxide 13463-67-7	A3

Chemical name	IARC
Titanium Dioxide 13463-67-7	Group 2B

Chemical name	OSHA
Titanium Dioxide 13463-67-7	X

Numerical measures of toxicity - Product Information

Unknown acute toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 133,432.00
ATEmix (dermal) 90,286.80
ATEmix (inhalation-gas) 99,999.00
ATEmix (inhalation-dust/mist) 66.70
ATEmix (inhalation-vapor) 448.80

12. ECOLOGICAL INFORMATION

Ecotoxicity

Specific test data for the substance or mixture is not available. Toxic to aquatic life with long lasting effects. (based on components).

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants
2-(Dimethylamino)ethanol 108-01-0	72h EC50 Desmodesmus subspicatus: = 35 mg/L

Chemical name	Fish
Dipropylene glycol monomethyl ether 34590-94-8	96h LC50 Pimephales promelas: > 10000 mg/L (static)
2-(Dimethylamino)ethanol 108-01-0	96h LC50 Pimephales promelas: = 81 mg/L (static)
Additive	96h LC50 Lepomis macrochirus: 0.14 - 0.32 mg/L (flow-through) 96h LC50 Oncorhynchus mykiss: 0.049 - 0.079 mg/L (flow-through) 96h LC50 Oncorhynchus mykiss: 0.05 - 0.089 mg/L 96h LC50 Pimephales promelas: 0.18 - 0.23 mg/L (flow-through)
Nonylphenol, branched, ethoxylated 68412-54-4	96h LC50 Pimephales promelas: = 0.323 mg/L (flow-through)

Chemical name	Crustacea
Dipropylene glycol monomethyl ether 34590-94-8	48h LC50 Daphnia magna: = 1919 mg/L
2-(Dimethylamino)ethanol 108-01-0	48h EC50 Daphnia magna: = 98.77 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

Chemical name	Partition coefficient
Dipropylene glycol monomethyl ether	-0.064

34590-94-8	
2-(Dimethylamino)ethanol 108-01-0	-0.55

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Contain and dispose of waste according to local regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Note: This information is not intended to convey all specific transportation requirements relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation information can be found in the specific regulations for your mode of transportation. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

DOT Not regulated
Exception: In the US and Canada except when all or part of the transportation is by vessel, containers 119 gallons/ 450 Liters and less are not regulated [see 49CFR 171.4 (c)(1)]

49CFR 171.4 (c)(2) applies only to marine pollutants. These items may be shipped as "not regulated" and no marine pollutant mark is required if in quantities of 5L or less (per inner packaging) for liquids or 5KG or less (per inner packaging) for solids and the packaging used meets the defined standards [see 49CFR 173.24 for general packaging requirements].

ICAO / IATA / IMDG / IMO Not Regulated
ICAO/IATA Special Provision A197 applies only to environmentally hazardous substances, UN3077 and UN3082. These items may be shipped as "not regulated" if in quantities of 5L or less (per inner packaging) for liquids or 5KG or less (per inner packaging) for solids and the packaging used meets the defined standards.

IMDG code 2.10.2.7 applies only to marine pollutants. These items may be shipped as "not regulated" and no marine pollutant mark is required if in quantities of 5L or less (per inner packaging) for liquids or 5KG or less (per inner packaging) for solids and the packaging used meets the defined standards.

15. REGULATORY INFORMATION

International Inventories
All substances are listed as ACTIVE on the TSCA Inventory. For further information, please contact:. Supplier (manufacturer/importer/downstream user/distributor).

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:.

Chemical name	CAS No.	Weight-%
Diethylene glycol monobutyl ether	112-34-5	0.1 - < 1
Ethylene glycol	107-21-1	0.1 - < 1

US State Regulations

Chemical name	Massachusetts
Dipropylene glycol monomethyl ether 34590-94-8	X
Titanium Dioxide 13463-67-7	X
2-(Dimethylamino)ethanol 108-01-0	X

Chemical name	Minnesota Right To Know
Dipropylene glycol monomethyl ether 34590-94-8	X
Titanium Dioxide 13463-67-7	X

Chemical name	New Jersey
Dipropylene glycol monomethyl ether 34590-94-8	X
Titanium Dioxide 13463-67-7	X
2-(Dimethylamino)ethanol 108-01-0	X
Additive	X

Chemical name	Pennsylvania
Dipropylene glycol monomethyl ether 34590-94-8	X
Titanium Dioxide 13463-67-7	X
2-(Dimethylamino)ethanol 108-01-0	X

California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm

Chemical name	California Proposition 65
Titanium Dioxide	Carcinogen
Ethylene glycol	Developmental

Canada

Chemical name	NPRI - National Pollutant Release Inventory
Dipropylene glycol monomethyl ether 34590-94-8	Part 5 Substance - Volatile Organic Compounds with Additional Reporting Requirements Part 4 Substance - Criteria Air Contaminants
2-(Dimethylamino)ethanol 108-01-0	Part 4 Substance - Criteria Air Contaminants
Nonylphenol, branched, ethoxylated 68412-54-4	Part 1, Group B Substance
Isononylphenol, ethoxylated 37205-87-1	Part 1, Group B Substance

16. OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value

ACGIH: (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated to be a Human Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

Revision Date Nov-13-2023

Pursuant to NOM-018-STPS-2015
This information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer
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.

End of Safety Data Sheet