

SAFETY DATA SHEET

Issuing Date: 27-Jan-2017

Version 2

ZLON 800 White

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name ZLON 800 White
Product code ZL-800
Product Code(s) ZL-800 (K55590)
Product Use Solvent Based Screen Printing Ink.

Manufactured by

FUJIFILM Manufacturing U.S.A., Inc.
 20 West 14th Avenue
 North Kansas City, MO. 64116 USA
 Phone#: (913) 342-4060

Distributed in Canada by

FUJIFILM Canada, Inc.
 600 Suffolk Ct.
 Mississauga, Ontario L5R 4G4

SDSs are available at the following website(s): <http://www.fujifilmusa.com/msds>

Company Phone Number U.S.A: 800-473-3854 Canada: 800-263-5018

Emergency Telephone Transport-CHEMTREC Inside NA: 800-424-9300
 Transport CHEMTREC Outside NA: 703-527-3887
 Transport-CANUTEC Inside Canada: 613-996-6666
 Medical Emergency (24 hour): 877-935-7387

E-mail EHS@fujifilm.com

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 3

GHS Label elements, including precautionary statements

Warning**Hazard Statements**

Causes serious eye irritation
May cause respiratory irritation. May cause drowsiness or dizziness
Flammable liquid and vapor

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/Bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical (ventilation and lighting) equipment
Wear protective gloves/eye protection/face protection
Keep cool

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
In case of fire: Use CO₂, dry chemical, or foam to extinguish

Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not classified

Other hazards

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life with long lasting effects

Unknown Acute Toxicity

15.86% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
titanium dioxide	13463-67-7	30-50%
Methoxypropanol acetate	108-65-6	20-40%
Polyurethane resin	UNKNOWN	10-20%
2-butoxyethyl acetate	112-07-2	5-10%
Ethylene glycol monobutyl ether	111-76-2	3-7%

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice	If symptoms persist, call a physician.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed - can enter lungs and cause damage. Call a physician or Poison Control Center immediately.
Protection of First-aiders	Use personal protective equipment.

Most important symptoms/effects, acute and delayed

May cause redness, itching, and pain. Burning feeling and temporary redness.

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. Alcohol resistant foam.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Flammable. Will be easily ignited by heat, sparks or flames.

Hazardous Combustion Products

Carbon oxides. Nitrogen oxides (NO_x).

Explosion Data

Sensitivity to Mechanical Impact none

Sensitivity to Static Discharge Yes

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.

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

Use personal protective equipment. Remove all sources of ignition. Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up**Methods for Containment**

A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up

Use personal protective equipment. Cover liquid spill with sand, earth or other noncombustible absorbent material. Take precautionary measures against static discharges. Pay attention to flashback. Use only non-sparking tools. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

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

Wear personal protective equipment. Avoid contact with skin, eyes or clothing. Keep away from open flames, hot surfaces and sources of ignition. Avoid breathing vapors or mists. Ensure adequate ventilation. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs
titanium dioxide	TWA: 10 mg/m ³	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ total dust	IDLH: 5000 mg/m ³	
Methoxypropanol acetate				50 ppm TWA
2-butoxyethyl acetate	TWA: 20 ppm		TWA: 5 ppm TWA: 33 mg/m ³	
Ethylene glycol monobutyl ether	TWA: 20 ppm	TWA: 50 ppm TWA: 240 mg/m ³ (vacated) TWA: 25 ppm (vacated) TWA: 120 mg/m ³ (vacated) S* S*	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m ³	

Exposure controls

Engineering Measures Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and body protection Wear protective gloves/clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Take off contaminated clothing and wash before reuse. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white	Odor	Solvent
Odor Threshold	Not available	Physical State @20°C	Liquid
pH	Not applicable	Molecular Weight	Not available
Specific Gravity	1.44	Autoignition temperature	Not available
Flash point	114 °F / 46 °C	Boiling point / boiling range	302 °F / 150 °C
Decomposition temperature	Not available	Freezing Point	Not available
Melting point / melting range	Not available	Explosive Properties	Not available
Flammability Limit in Air		Partition coefficient	Not available
upper	10.8	Vapor Pressure	2.4 mmHg @ 20 °C
Lower	1.3	Density	Not available
Oxidizing Properties	Not available	Actual VOC (lb/gal)	5.14
Solubility	Insoluble in water	VOC (g/l)	Not available
Evaporation rate	Not available		
Vapor density	Not available		
Weight per Gallon (lbs)	11.98		
VOC (lb/gal)	Not available		
Dynamic viscosity	Not available		
VOC Content California			
VOC Content of Material		617 grams per liter	
VOC Content of Coating less Water and Exempt Solvents		617 grams per liter	

10. STABILITY AND REACTIVITY

Reactivity

Stable under recommended storage conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization does not occur.

Conditions to Avoid

Heat (temperatures above flash point), sparks, ignition points, flames, static electricity. Heat, flames and sparks.

Incompatible Materials

Strong oxidizing agents, strong acids, and strong bases. Strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information****Acute toxicity****Inhalation**

May be harmful if inhaled. May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Eyes

Risk of serious damage to eyes.

Skin

Harmful if absorbed through skin. Prolonged or repeated contact may dry skin and cause irritation.

Ingestion

May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical Name	Oral LD50	Dermal LD50	LC50 (lethal concentration)
titanium dioxide	> 10000 mg/kg (Rat)		> 6820 mg/m ³
Methoxypropanol acetate	= 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	5321 mg/m ³
2-butoxyethyl acetate	= 2400 mg/kg (Rat)	= 1500 mg/kg (Rabbit)	> 400 ppm (Rat) 4 h
Ethylene glycol monobutyl ether	= 470 mg/kg (Rat)	400 mg/kg (Rabbit) 2270 mg/kg (Rat)	= 450 ppm (Rat) 4 h

Information on toxicological effects

No information available.

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

Irritating to skin.

Corrosivity

Risk of serious damage to eyes.

Sensitization

No information available.

Mutagenic Effects

No information available.

Reproductive Toxicity

No information available.

Carcinogenicity

None known.

Chemical Name	ACGIH	IARC	NTP	OSHA
titanium dioxide		Group 2B		X
2-butoxyethyl acetate	A3			
Ethylene glycol monobutyl ether	A3	Group 3		

ACGIH: (American Conference of Governmental Industrial Hygienists)

- A1 - Known Human Carcinogen
- A2 - Suspected Human Carcinogen
- A3 - Animal Carcinogen
- A4 - Not Classifiable as a Human Carcinogen

NTP: (National Toxicity Program)

- Known - Known Carcinogen
- Reasonably Anticipated - Reasonably Anticipated to be a Human 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 its carcinogenicity to humans

OSHA: (Occupational Safety & Health Administration)

- X - Present

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic toxicity May cause adverse liver effects. May cause adverse kidney effects. Hydroxylamine sulfate: May cause methemoglobinemia.

Target Organ Effects Blood, Central nervous system (CNS), Eyes, Hematopoietic System, Kidney, Liver, Respiratory system, Skin, Lungs, Lymphatic System.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

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

ATEmix (oral)	2792 mg/kg
ATEmix (dermal)	3831 mg/kg
ATEmix (inhalation-dust/mist)	23 mg/l
ATEmix (inhalation-vapor)	168 mg/l

ATE: Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae toxicity	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Methoxypropanol acetate		Pimephales promelas: 161 mg/L at 96 h		

Persistence and degradability

No information available.

Bioaccumulation

Chemical Name	Octanol Water Partition Coefficient (log pow)
Methoxypropanol acetate	0.43
2-butoxyethyl acetate	1.51
Ethylene glycol monobutyl ether	0.81

Mobility

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Dispose of in accordance with all applicable national environmental laws and regulations. Dispose of in accordance with federal, state, and local regulations.

Contaminated packaging

Do not re-use empty containers.

US EPA Waste Number

D001

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Reportable Quantity (RQ)	Cyclohexanone: RQ kg= 16214.29
Description	UN1210 Printing ink 3, III
Emergency Response Guide Number	129
Packaging Exceptions	150
Non-bulk Packaging	173
Bulk Packaging	242

TDG

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210 Printing ink 3, III

MEX

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210 Printing ink 3, III

ICAO

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210 Printing ink 3, III

IATA

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210 Printing ink 3, III

IMDG

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
EmS-No	F-E, S-D
Description	UN1210 Printing ink 3, III

ADR/RID

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III

Classification Code	F1
Description	UN1210 Printing ink 3, III
ADR/RID-Labels	3

ADN

Proper Shipping Name	Printing ink
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Classification Code	F1
Description	UN1210 Printing ink 3, III
Hazard Labels	3
Limited quantity	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Yes
DSL/NDSL	No
PICCS	No
EINECS/ELINCS	No
ENCS	No
IECSC	No
KECL	No
AICS	No

*Yes - All component(s) of this product are included or are exempt from listing on the inventory.

*No - Indicates the component(s) of this product are either not listed or have not been determined to be listed on the inventory.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations**TSCA Sections 4, 5 and 12(b)**

This product does not contain any chemicals regulated by TSCA Sections 4, 5 or 12(b).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS No	SARA 313 - Threshold Values %	Weight-%
2-butoxyethyl acetate	112-07-2	1.0	5-10%
Ethylene glycol monobutyl ether	111-76-2	1.0	3-7%

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	no

Reactive Hazard no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):.

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
titanium dioxide	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
titanium dioxide	X	X	X		X
2-butoxyethyl acetate		X	X	X	
Ethylene glycol monobutyl ether	X	X	X	X	X

International Regulations

Canada - NDSL

This product does not contain any NDSL chemicals.

Mexico - Grade

Moderate risk, Grade 2

Mexico - Carcinogen Status and Exposure Limits

Chemical Name	Carcinogen Status	Exposure Limits
titanium dioxide		Mexico: TWA 10 mg/m ³ Mexico: STEL 20 mg/m ³
2-butoxyethyl acetate	A3	
Ethylene glycol monobutyl ether		Mexico: TWA 26 ppm Mexico: TWA 120 mg/m ³ Mexico: STEL 75 ppm Mexico: STEL 360 mg/m ³

Other Regulations

No information available

CPSIA	Formulated to comply
CONEG	Formulated to comply
ASTM F-963	Formulated to comply
CHPA	Formulated to comply
RoHS	Formulated to comply
REACH/SVHC	Formulated to comply
EN-71	Formulated to comply

16. OTHER INFORMATION

NFPA	Health Hazard 2	Flammability 2	Instability 0	Physical and chemical hazards -
HMIS	Health Hazard 2*	Flammability 2	Physical Hazard 0	Personal protection B

Prepared By FUJIFILM Environment, Health and Safety, phone: 800-473-3854

Revision Date 27-Jan-2017

Revision Note No information available

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.**

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