FUJIFILM

SAFETY DATA SHEET

Issuing Date: 27-Jan-2017 **Version** 7

Zephyr-Lon Series

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Zephyr-Lon Series

Product code ZL

Product Code(s) ZL-010(K78516) ZL-014(K78517) ZL-020(K92205) ZL-030(K78518) ZL-031(K78519) ZL-038(K78521) ZL-039(K78522) ZL-040(K78524) ZL-050(K78523) ZL-052(K89313) ZL-070(K80502) ZL-150(K92195) ZL-152(K92196) ZL-251(K57275) ZL-350(K92199) ZL-351(K92200) ZL-402(K89471) ZL-450(K92202) ZL-501(K84955) ZL-504(K78946) ZL-700(K55716) ZL-801(K70126) ZL-901(K55515) ZL-094(K78525)

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

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

Flammable liquids	Category 3

GHS Label elements, including precautionary statements

Danger

Hazard Statements
Causes skin irritation
Causes serious eye damage
Flammable liquid and vapor

Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling
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

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
In case of fire: Use CO2, dry chemical, or foam to extinguish

Storage
Store in a well-ventilated place. Keep cool

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
Harmful to aquatic life with long lasting effects

Unknown Acute Toxicity
12.3% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Methoxypropanol acetate	108-65-6	20-40%
Polyurethane resin	UNKNOWN	10-20%
Cyclohexanone	108-94-1	10-20%
Hydrous aluminum silicate	1332-58-7	7-13%
2-butoxyethyl acetate	112-07-2	5-10%

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice If symptoms persist, call a physician.

Eye contact In case of contact with substance, immediately flush eyes with running water for at least 30 minutes. Keep eye wide open while rinsing. Do not rub affected area. Call a physician immediately.

Skin contact IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation Move to fresh air. Administer oxygen if breathing is difficult. If symptoms persist, call a physician.

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

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

Unsuitable Extinguishing Media

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

Specific hazards arising from the chemical

Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Flammable.

Hazardous Combustion Products
Carbon oxides. Nitrogen oxides (NOx).

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

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

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 Soak up with inert absorbent material.

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.

Conditions for safe storage, including any incompatibilities

Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs
Methoxypropanol acetate				50 ppm TWA
Cyclohexanone	STEL: 50 ppm TWA: 20 ppm S*	TWA: 50 ppm TWA: 200 mg/m^3 (vacated) TWA: 25 ppm (vacated) TWA: 100 mg/m^3 (vacated) S*	IDLH: 700 ppm TWA: 25 ppm TWA: 100 mg/m^3	
Hydrous aluminum silicate	TWA: 2 mg/m^3 particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter	TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 10 mg/m^3 total dust (vacated) TWA: 5 mg/m^3 respirable fraction	TWA: 10 mg/m^3 total dust TWA: 5 mg/m^3 respirable dust	
2-butoxyethyl acetate	TWA: 20 ppm		TWA: 5 ppm TWA: 33 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	According to product specification	**Odor**	Solvent
Odor Threshold	Not available	**Physical State @20°C**	Liquid
pH	Not available		
Specific Gravity	1.01 - 1.69	**Molecular Weight**	Not available
Flash point	109 °F / 43 °C	**Autoignition temperature**	Not available
Decomposition temperature	Not available	**Boiling point / boiling range**	295 °F / 146 °C
Melting point / melting range	Not available	**Freezing Point**	Not available
Flammability Limit in Air			
upper 10.8			
Lower 1.3			
Oxidizing Properties	Not available	**Explosive Properties**	Not available
Solubility	Insoluble in water	**Partition coefficient**	Not available
Evaporation rate	Not available	**Vapor Pressure**	4.0 mmHg @ 20 °C
Vapor density	Not available	**Density**	Not available
Weight per Gallon (lbs)	8.4-14.1	**Actual VOC (lb/gal)**	4.75-6.58
VOC (lb/gal)	Not available	**VOC (g/l)**	Not available
Dynamic viscosity	Not available		

VOC Content California

VOC Content of Material	570 - 790 grams per liter
VOC Content of Coating less Water and Exempt Solvents	570 - 790 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.

Incompatible Materials

Strong oxidizing agents, strong acids, and strong bases.

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

No information available

Chemical Name	Oral LD50	Dermal LD50	LC50 (lethal concentration)
Methoxypropanol acetate	= 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	5321 mg/m³
Cyclohexanone	= 1544 mg/kg (Rat)	= 947 mg/kg (Rabbit)	= 8000 ppm (Rat) 4 h
Hydrous aluminum silicate	> 5 g/kg (Rat)		
2-butoxyethyl acetate	= 2400 mg/kg (Rat)	= 1500 mg/kg (Rabbit)	> 400 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
Cyclohexanone	A3	Group 3		
2-butoxyethyl acetate	A3			

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

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ATEmix (oral)	2735 mg/kg
ATEmix (dermal)	2579 mg/kg
ATEmix (inhalation-dust/mist)	9.4 mg/l
ATEmix (inhalation-vapor)	68.9 mg/l

ATE: Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity

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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		
Cyclohexanone	20: 96 h Chlorella vulgaris mg/L EC50	Pimephales promelas: 481 - 578 mg/L at 96 h Pimephales promelas: 8.9 mg/L at 96 h		

Persistence and degradability

No information available.

Bioaccumulation

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Chemical Name	Octanol Water Partition Coefficient (log pow)
Methoxypropanol acetate	0.43
Cyclohexanone	0.86
2-butoxyethyl acetate	1.51

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%

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):.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Cyclohexanone	5000		RQ 5000 lb final RQ RQ 2270 kg final RQ

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

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Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Cyclohexanone	X	X	X	X	X
Hydrous aluminum silicate	X	X	X		X
2-butoxyethyl acetate		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
Cyclohexanone		Mexico: TWA 50 ppm Mexico: TWA 200 mg/m^3 Mexico: STEL 100 ppm Mexico: STEL 400 mg/m^3
Hydrous aluminum silicate		Mexico: TWA 10 mg/m^3 Mexico: STEL 20 mg/m^3
2-butoxyethyl acetate	A3	

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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