


## Section 1 – Identification

<b>Product identifier</b>	<b>5801K</b>
<b>Other means of identification</b>	Not available.
<b>Synonym(s)</b>	Not available.
<b>Recommended use</b>	Inkjet Printing
<b>Recommended restrictions</b>	None Known.
<b>Issue date</b>	26-Feb-2020
<b>Company identification</b>	<b>RYNAN TECHNOLOGIES - VIET NAM JSC</b> LongTri Hamlet, LongDuc Commune, Tra Vinh City, Tra Vinh Province, Vietnam Tel. +84-294-3746-991 Fax +84-294-3746-992

## Section 2 - Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids.	Category 2
<b>Health hazards</b>	Serious eye irritation (Category 2), H319 Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336	
<b>Label elements</b>		
<b>Signal word</b>	Danger	
<b>Hazard statement</b>	H225- Highly flammable liquid and vapor. H319- Causes serious eye irritation. H336- May cause drowsiness or dizziness.	
<b>Precautionary statement</b>		
<b>Prevention</b>	P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233 - Keep container tightly closed. P240 - Ground/Bond container and receiving equipment. P241 - Use explosion-proof electrical/ventilating/lighting/equipment. P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge.  P280 - Wear protective gloves/protective clothing/eye protection/face protection. P370+P378- In case of fire: for small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam to extinguish. For large fires, use water spray, fog, or alcohol-resistant foam to extinguish. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.	
<b>Response</b>	P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue	

rinsing.

<b>Storage</b>	P403 + P235 - Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	P501- Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Environmental hazards</b>	Not available

### Section 3 - Composition/information on ingredients

<b>Mixtures</b>	<b>CAS Number</b>	<b>%</b>
2-Butanone	78-93-3	>40
1,3-Dioxolane	646-06-0	<25
Acetone	67-64-1	<5
N-propanol	71-23-8	<20
Black dye mixture	Proprietary	<10

### Section 4. First-aid measures

<b>Inhalation</b>	Move person to fresh air immediately. If symptoms persist, get immediate medical attention.
<b>Skin contact</b>	In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water. Wash clothing separately before reuse. Get medical attention, if needed.
<b>Eye contact</b>	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 attention immediately.
<b>Ingestion</b>	Rinse mouth out with water. If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Most important symptoms/ effects, acute and delayed</b>	See section 8.

### Section 5. Fire-fighting measures

<b>FLASH POINT:</b>	1°C (closed-cup).
<b>Suitable extinguishing media</b>	Suitable extinguishing media: sand, carbon dioxide (CO <sub>2</sub> ) or dry chemical.
<b>Unsuitable extinguishing media</b>	Not available.
<b>Specific hazards arising from the chemical</b>	Not applicable.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters should wear full protective clothing including self-contained breathing apparatus. Avoid run off into storm sewers and ditches which lead to waterways.
<b>Fire-fighting equipment/instructions</b>	Move containers from fire area if you can do it without risk.

### Section 6. Accidental release measures

<b>Personal precautions,</b>	Avoid contact with skin. Avoid inhalation of vapors or mists.
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<b>protective equipment and emergency procedures</b>	Do not touch or walk through spilled material. Ensure adequate ventilation. Remove all sources of ignition.
	Use personal protective equipment to minimize exposure to skin and eye. In the case of vapor formation use a respirator with an approved filter.
<b>Environmental precautions</b>	Do not flush into surface water or sanitary sewer system.
<b>Methods and materials for containment and cleaning up</b>	Not available.

## Section 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Wear personal protective equipment.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

## Section 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants

(29 CFR1910.1000)

Components	Type	Value
2-Butanone (CAS 78-93-3)	PEL	590 mg/m <sup>3</sup> 200 ppm
Acetone (CAS 67-64-1)	PEL	2400mg/m <sup>3</sup> 1000ppm
N-propanol (CAS 71-23-8)	PEL	500mg/m <sup>3</sup> 200ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
2-Butanone (CAS 78-93-3)	STEL	885mg/l 300 ppm
Acetone (CAS 67-64-1)	STEL	750ppm
N-propanol (CAS 71-23-8)	STEL	250ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2-Butanone (CAS 78-93-3)	TWA	590 mg/m <sup>3</sup> 200 ppm
Acetone (CAS 67-64-1)	TWA	590mg/m <sup>3</sup> 250ppm
N-propanol (CAS 71-23-8)	TWA	500mg/m <sup>3</sup> 200ppm

**Biological limit values** No biological exposure limits noted for the ingredient(s).

<b>Appropriate engineering Controls</b>	Not available.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses; chemical goggles (if splashing is possible). Eye wash fountain and emergency showers are recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Not available.
<b>Other</b>	Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves
<b>Respiratory protection</b>	Provide adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.
<b>Thermal hazards</b>	Not available.
<b>General hygiene considerations</b>	Do not get this material in contact with skin. Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Launder contaminated clothing before reuse.

## Section 9. Physical and chemical properties

<b>Appearance</b>	Black liquid
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point;</b>	Not available.
<b>Initial boiling point and boiling range</b>	>70°C
<b>Flash point</b>	1°C (closed-cup)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.

<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Not available.
<b>Partition coefficient: n-octanol/water</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity (cPs)</b>	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	Not available.
<b>Chemical stability</b>	Stable at normal conditions.
<b>Possibility of hazardous reactions</b>	None known.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Not available.
<b>Hazardous decomposition products</b>	Not available.

## Section 11. Toxicological information

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity value

Components	Species	Test results
<b>2-Butanone (CAS 78-93-3)</b>		
<b>Acute</b>		
Inhalation		
LC50	Mouse Mammal	4 h - 32.000 mg/m <sup>3</sup> 38.000 mg/m <sup>3</sup>
Oral		
LD50	Rat	2.737 mg/kg
Dermal		
LD50	Rabbit	6.480 mg/kg
<b>1,3-Dioxolane (CAS 646-06-0)</b>		
<b>Acute</b>		
Inhalation		
LC50	Rat male and female	4 h – 68.4 mg/l
Oral		
LD50	Rat male and female	5200 mg/kg

Dermal  
LD50 Rat 15000 mg/kg

**Acetone (CAS 67-64-1)**

**Acute**

Inhalation  
LC50 Rat 50100 mg/m<sup>3</sup>

Oral  
LD50 Rat 5800 mg/kg

Dermal  
LD50 Guinea pig 7426 mg/kg

**N-propanol (CAS 71-23-8)**

**Acute**

Inhalation  
LC50 Rat 20000mg/l, 1 Hour

Oral  
LD50 Rat 8038mg/kg

Dermal  
LC50 Rabbit 4000mg/kg

**Serious eye damage/eye irritation** Eye Contact: Cause eye irritation.  
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.  
Ingestion: Harmful if swallowed.

**Respiratory sensitization** Based on available data, the classification criteria are not met.

**Skin sensitization** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

**Section 12. Ecological information**

**Aquatic toxicity**

**Eco toxicity**

Components	Species	Test Results
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**2-Butanone (CAS 78-93-3)**

**Aquatic**

Daphnia and other aquatic invertebrates	LC50 Water flea (Daphnia magna)	520 mg/l - 48 h
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Fish	NOEC Cyprinodon variegatus (sheepshead minnow)	400 mg/l - 96 h
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	LC50	Pimephales promelas (fathead minnow)	3.130 - 3.320 mg/l - 96 h
<b>1,3-Dioxolane (CAS 646-06-0)</b>			
Daphnia and other aquatic invertebrates	EC50	Daphnia magna (Water flea)	772mg/l- 48h
Fish	LC50	Lepomis macrochirus	95.4 mg/l - 96 h
Toxicity to algae	EC50	Pseudokirchneriella subcapitata	877 mg/l – 72h
<b>Acetone (CAS 67-64-1)</b>			
Fish	LC50	Oncorhynchus mykiss (rainbow trout)	5.540 mg/l - 96 h
Daphnia and other aquatic invertebrates	LC50	Daphnia magna (Water flea)	8.800 mg/l - 48 h
<b>N-propanol (CAS 71-23-8)</b>			
Fish	LC50	Pimephales promelas (fathead minnow)	4555 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50	Water flea (Daphnia magna)	3642 mg/l - 48 h
Toxicity to algae	EC50	Pseudokirchneriella subcapitata (green algae)	9170 mg/l - 48 h
Persistence and degradability	Not available.		
<b>Bioaccumulative potential</b>	Not available.		
<b>Partition coefficient n-octanol / water (log Kow)</b>			
2-Butanone (CAS 78-93-3)	0.29		
Acetone (CAS 67-64-1)	-0.24		
1,3-Dioxolane (CAS 646-06-0)	0.37		
N-propanol (CAS 71-23-8)	0.25		
<b>Mobility in soil</b>	Not available.		
<b>Other adverse effects</b>	Not available.		

### Section 13. Disposal considerations

<b>Disposal instructions</b>	Do not dispose of together with general office waste. Do not allow this material to drain into sewers/water supplies. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Ensure collection and disposal with an appropriately licensed waste contractor.
<b>Local disposal regulations</b>	Not available.
<b>Hazardous waste code</b>	Not regulated.
<b>Waste from residues / unused products</b>	Not available.

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Contaminated packaging Not available.

## Section 14. Transport information

### DOT

UN number	UN1210
UN proper shipping name	Printing ink, flammable (2-Butanone, 1,3-Dioxolane, Acetone, n-propanol)
Transport hazard class(es)	3
Subsidiary class(es)	Not available.
Packing group	II
Special precautions for user	<b>Passenger aircraft</b> Quantity limitation: 5 L <b>Cargo aircraft</b> Quantity limitation: 60 L
Labels required	Not available.

### IATA

UN number	UN1210
UN proper shipping name	Printing ink, flammable (2-Butanone, 1,3-Dioxolane, Acetone, n-propanol)
Transport hazard class(es)	3
Subsidiary class(es)	-
Packaging group	II
Environmental hazards	No
Labels required	Not available.
ERG Code	Not available.

Special precautions for user	<b>Passenger and Cargo Aircraft</b> Quantity limitation: 5 L <b>Cargo Aircraft Only</b> Quantity limitation: 60 L <b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: 1 L
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### IMDG

UN number	UN1210
UN proper shipping name	Printing ink, flammable (2-Butanone I, 1,3-Dioxolane, Acetone, n-propanol)
Transport hazard class(es)	3
Subsidiary class(es)	-



<b>Packaging group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No
<b>Labels required</b>	Not available.
<b>Ems</b>	Not available.
<b>Special precautions for user</b>	Not available.

## Section 15 - Regulatory Information

<b>US federal regulations</b>	US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.
<b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>	Not regulated.
<b>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not on regulatory list.
<b>CERCLA Hazardous Substance List (40 CFR 302.4)</b>	
2-Butanone (CAS 78-93-3)	Reportable quantity: 5000 lbs.
<b>Superfund Amendments and Reauthorization Act of 1986 (SARA)</b>	
<b>Hazard categories</b>	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard – No
<b>US state regulations</b>	
<b>US. Massachusetts RTK - Substance List</b>	2-Butanone (CAS 78-93-3) N-propanol (CAS 71-23-8) Acetone (CAS 67-64-1)
<b>US. New Jersey Worker and Community Right-to-Know Act</b>	N-propanol (CAS 71-23-8)
<b>US. Pennsylvania RTK - Hazardous Substances</b>	2-Butanone (CAS 78-93-3) N-propanol (CAS 71-23-8) Acetone (CAS 67-64-1)
<b>US. Rhode Island RTK</b>	2-Butanone (CAS 78-93-3) Acetone (CAS 67-64-1)
<b>US - California Proposition 65 - Carcinogens &amp; Reproductive Toxicity (CRT): Listed substance</b>	No

## Section 16 - Other Information

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