

## Material Safety Data Sheet

### Article and Corporate Identification

<u>Product Name</u>	Solvent Ink cartridge Yellow SPC-0334Y
<u>Description</u>	Organic solvent ink, Yellow color

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### Composition Information

Ingredient and Content(for danger detrimental substances)			
Ingredients	CAS No.	Contents (%)	Note
Cyclohexanone	108-94-1	10-20	Organic solvent
Organic pigment	Registered	2.0 - 8.0	Nickel compound(Ni:0.02% or less)
Vinyl resin		0.5-3.0	
Ester resin		0.5-3.0	
Ethylene glycole monobutyl ester acetate	112-07-2	70-80	
Propylene glycole monometyl esteracetate	108-65-6	5.0-15	

### Hazard Identification

<u>Emergency Overview</u>
* Inflammable liquid and acute toxicity substance
<u>Potential Health Effects</u>
* When steam piles up, there is fear of ignition.
* There is a possibility of causing organic-solvent poisoning.
Don't absorb intentionally. In addition, the following condition may be presented in that case.
* It might start giddiness, headache, etc.
* There is a slight anesthesia action.
* eyes, skin, and a respiratory tract have a stimulus.

## First Aid Measures

Eyes	<ul style="list-style-type: none"> <li>* Wash eyes 15 minutes or more by a lot of pure running waters immediately.</li> <li>Wash completely to the reverse side of an eyelid.</li> <li>* Consult physician as soon as possible.</li> </ul>
Skin	<ul style="list-style-type: none"> <li>* Wipe out the adhesions as quickly as possible.</li> <li>* Fully wash out using a lot of water and soap, or the detergent for the skins.</li> <li>Never use thinner.</li> <li>* Consult a doctor, if change is recognized on skin or irritation continues.</li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>* When steam is inhaled in large quantities and feeling becomes bad, it moves to the fresh place of air immediately, and is warmly made quiet.</li> <li>A breath respire artificially, when having stopped, irregularity and. It is not made not to make a vomiting thing swallow. Receive a doctor's allowance immediately.</li> </ul>
Ingestion	<ul style="list-style-type: none"> <li>* When drinking by mistake, lie quietly and consult a doctor immediately.</li> <li>* Do not swallow vomits</li> </ul>

## Fire Fighting Measures

<p>Extinguishing Agent</p> <p>Water:NG / Carbonic acid gas:OK / Form:OK / Powder:OK / Desiccant Sand:OK</p>
<p>Fire Fighting Instructions</p> <ul style="list-style-type: none"> <li>* Wear certain protection(Heat Resistant clothes, etc)</li> <li>* Remove inflammable staffs quickly from the circumference.</li> <li>* Do not use water.</li> </ul>

## Accidental Release Measures

<ul style="list-style-type: none"> <li>* Wear certain protections(gloves, mask, apron, goggles, etc).</li> <li>* Outflow things are collected in the container which can be sealed and are moved to safe places, such as an outdoor open space.</li> <li>* An adhesion thing, waste, etc. should take a measure based on a related law.</li> <li>* The neighboring source of ignition, a high temperature object, and neighboring combustibles are removed quickly.</li> <li>* Prepare suitable fire extinguisher for the case of flashing.</li> <li>* Collect inks using tools, such as products made from a plastic to avoid sparks.</li> <li>* Absorb by nonflammable thing of dryness sand, the ground, and others.</li> </ul> <p>For a lot of outflow, it encloses with the landfill to prevent outflow.</p>
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## Precautions For Safe Handling and Use

### Handling

It is dealt with in a well ventilated place.

A container is sealed each time.

Use of fire, a spark, and a high temperature thing is forbidden on the outskirts.

For the measure against static electricity, equipment etc. is grounded and electric apparatus uses a anti-explode type (safety type).

Tools of none sparks type are used.

Fabrics which are used for removal or wiping of inks etc. are soaked in water until they are abrogated.

Wear suitable protection implements (glove, protection mask, apron, goggles, etc.) for work.

Equip sufficient exhaust systems when working in the sealed place, and wear suitable protection implements.

### Storage

\* Avoid direct rays of sunlight.

\* Keep at the place with sufficient ventilation.

\* Store in the place of away from fire and a heat source.

## Exposure Controls and Personal Protection

### Engineering Controls

\* A ventilator system must be equipped to prevent piling up steam.

\* A machine which uses this inks must be taken ground.

\* Near the handling place, it considers as equipments with which the thing used as high temperature and the source of ignition is not placed.

### Exposure Controls

\* Handling equipments must be none-exposure type.

### Personal Protection

\* Eyes : Use protect goggle.

\* Skin : The glove of the quality of the material with which the organic solvent or chemicals does not permeate is worn.

## Physical and Chemical Properties

Appearance Yellow color Liquid
Boiling Point : 146c° over                      pH :
Steam Pressure : 453Pa (20 c°)
Density : 0.968±0.01
Others No other information.

## Stability and Reactivity

Flash Point : 60.2 c°
Autoflammability: 420 c°
Explosion lower limit : 0.8 %
Explosion upper limit : 10.7 %
<u>Dangerous substance with contact</u> * No information
<u>Generation of Detrimental gas by Combustion etc</u> * Detrimental gas, such as CO and a low numerator monomer, occurs.
<u>Other reactivity information</u> * No dangerous reaction under standard conditions.

## Toxicological Information

Name	Density	ACGIH(TLV)	IARC Class	Others
Cyclohexanone	25ppm	50ppm	—	(rat)LD50:1620µl/kg
<u>Other information</u> * PRTR First class chemical substance Nickel compound Mass number in this ink : Less than 0.02% Not correspond to PRTR( less than 0.1%)				
<u>Toxicological information for this product</u> * Although the safety examination as a product is omitted, when it uses wrongly, influence may appear in liver and the kidney. Moreover, degreasing of the skin may be caused.				

## Ecological Information

\* Follow the appearance cautions which do not affect environment in the cases, such as - abandonment, at the time of disclosure.

## Disposal Considerations

\* For disposal of wastes, such as waste fluid and a container, observe local regulations.  
\* The drainage which washed a container, machine equipment, etc. is passing as it is neither to the ground nor a drain.  
\* For the waste generated by drainage processing, incineration, etc, observe local regulations.  
\* In carrying out incineration processing of the waste etc., in order to generate detrimental gas, the incinerator without cleaning equipment is not used.

## Transport Information

### Common

\* General cautions of the clause of the cautions on handling and storage are followed.

### Land transportation

\* When it corresponds to Fire Service Law and labor security and hygiene law, the place appointed about transportation of a statute is followed.

### Marine transportation

\* The place set to Law for Safety of Vessels is followed.

### Air transportation

\* The place set to the Aviation Act is followed.

## Regulatory Information

Industrial Safety and Health Law : Dangerous article (flammable material)

Organic xxxxx(2<sup>nd</sup> organic solvent)

PRTR : Not corresponded

Fire Defense Law : Hazardous material 4<sup>th</sup> category, 2nd Petroleum oil (Non-aqueous)

UN Number : 1210

### EU Risk Phase

Xn

R20/21

S24

(Note) The contents are created based on the data which can come to hand at present, information, and data, since evaluation of danger and detrimental nature is not necessarily enough, be careful of handling enough.